June 1975

Smithsonian

The unlovable hyena hunts even better than it scavenges (p. 38)

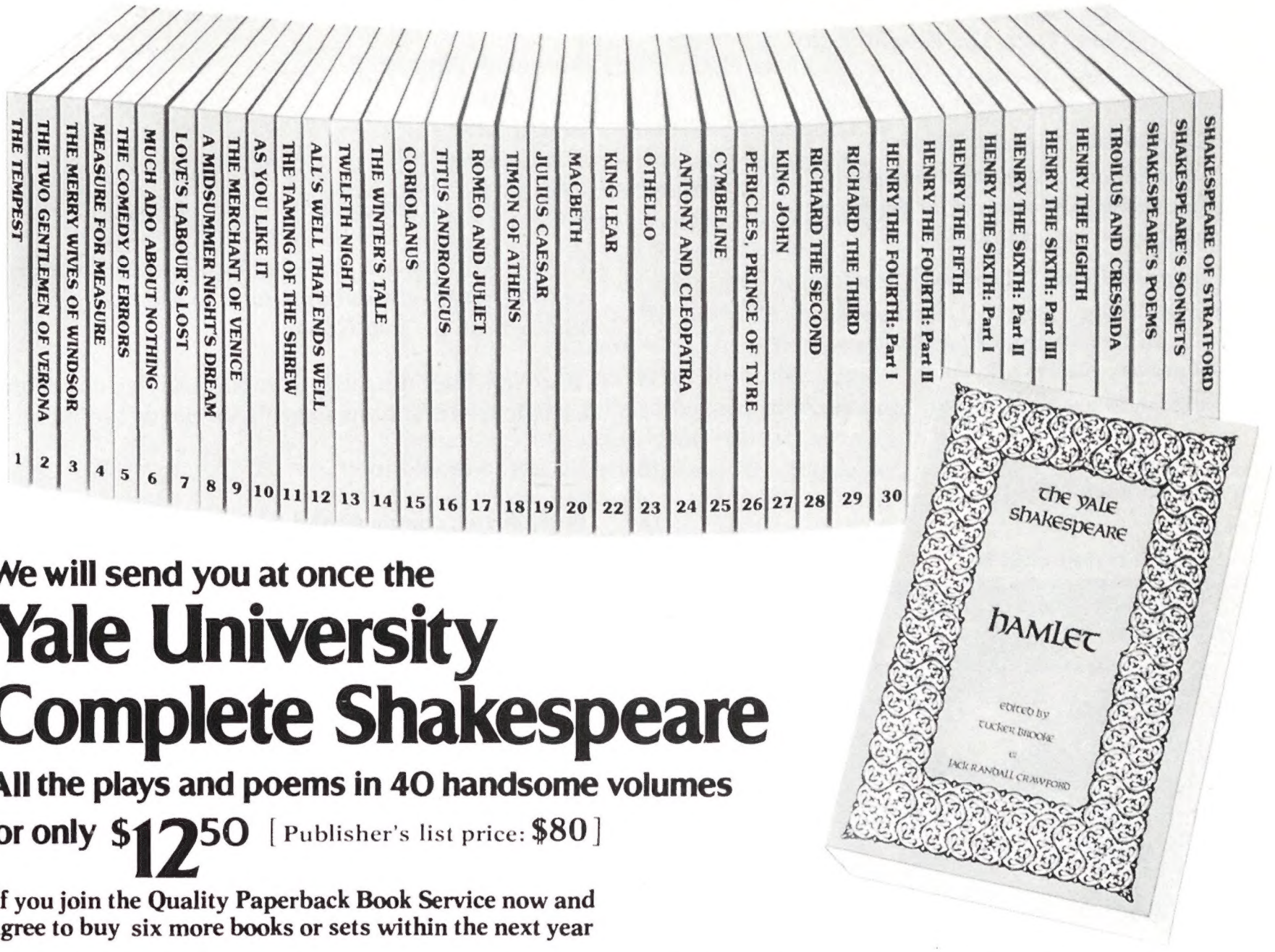
about ½ the price*

Polaroid introduces an SX-70 at about half the price of the original. The Model 3.

Nearly two million people have already bought the remarkable SX-70 Land camera. Now Polaroid makes it possible for millions more to afford one, by introducing the SX-70 Model 3 at about half the price.* It has a different viewing system. (You don't focus through the lens. You set the distance.) But all the other history-making SX-70 features are there, right down to the big, beautiful pictures developing before your eyes. Go get your SX-70, the astonishing camera now at an astonishing price.

*Comparison based on suggested list prices of the Model 3 and the original model. ©1975 Polaroid Corporation. Polaroid® SX-70™

A dramatic introduction to the benefits you'll enjoy as a member of the QUALITY PAPERBACK BOOK SERVICE



We will send you at once the

Yale University Complete Shakespeare

All the plays and poems in 40 handsome volumes

for only $12.50 [Publisher's list price: $80]

If you join the Quality Paperback Book Service now and agree to buy six more books or sets within the next year

HERE'S an extraordinary opportunity for those who collect the classics in fine paperback editions. You can add the complete forty-volume Yale University paperback edition of all Shakespeare's plays and poems—an $80 value—to your library for only $12.50, with membership.

This edition not only includes all the plays and poems; it also contains a wealth of background information prepared by distinguished Shakespeare scholars to help you gain a deeper understanding of Shakespeare and his works: copious notes, explanations of the sources and history of each play, useful glossaries of obscure words and phrases. Moreover, this paperback edition is one of the most readable Shakespeares in print.

As a QPB member, you'll save money on many of today's most significant paperbacks. Every Main Selection comes to you at a full 20% discount, and you'll also qualify immediately for our Free Book Plan.

If you've been frustrated by the difficulty—perhaps the impossibility—of locating good books in economical paperback editions, give the QPB the short trial outlined. You have everything to gain, including the forty-volume *Yale University Complete Shakespeare.*

HOW MEMBERSHIP WORKS

1. You will receive the *QPB Review* fifteen times a year—about every 3½ weeks. This informative catalog describes the Main Selection plus at least fifty Alternates. **The Main Selection is always offered at a 20% discount.**
2. If you want the Main Selection, do nothing. It will be shipped to you automatically. If you want one or more of the Alternates—or no book at all—just indicate your decision on the reply form always enclosed with the *Review* and return it by the date specified.
3. **Free books.** For every book or set you buy (exclusive of the *Yale University Complete Shakespeare,* your introductory forty-volume set for $12.50) you earn at least one Bonus Point, and the Bonus Points you accumulate entitle you to free books and sets. (You pay only shipping charges.)
4. **Return privilege.** If your *Review* is delayed in the mail and therefore you receive the Main Selection without having had ten days to notify us if you did not want it, you may return that Selection at our expense.

QUALITY PAPERBACK BOOK SERVICE, INC.
Middletown, Pennsylvania 17057

QUALITY PAPERBACK BOOK SERVICE, INC.
Middletown, Pennsylvania 17057 **5-QB454-6**

Please enroll me as a member of the Quality Paperback Book Service and send me all forty volumes of the paperback edition of the YALE UNIVERSITY COMPLETE SHAKESPEARE (publisher's list price: $80). Bill me only $12.50, plus shipping. My only obligation is to purchase six more books or sets during the coming year, receiving a 20% discount on every Main Selection I take. My membership is cancelable any time after I buy the six additional books or sets. A moderate shipping charge is added to all shipments.

9

Mr.
Ms. _____
(Please print plainly)

Address _____ Apt. _____

City _____

State _____ Zip _____

Q21

Secretary of the Smithsonian Institution
S. Dillon Ripley

Editor Edward K. Thompson

Board of Editors Ralph Backlund, Grayce Northcross, James K. Page jr., Edwards Park

Associate Editors Marlane Liddell, Louise MacDonald, Bennett Schiff, John P. Wiley jr.

Picture Associate Caroline Despard

Assistant Editors Joyce McCarten, Dee McRae, Donna Reifsnider, Meredith Riegle

Art Direction John Beveridge

Advertising Director Thomas H. Black

General Manager Joseph J. Bonsignore
Production Nannie Clay Shanahan
Business Carey O. Randall

Circulation-Promotion Director Anne Keating

Board of Regents
Smithsonian Institution

Ex Officio

Chief Justice of the United States
Warren E. Burger, Chancellor
Vice President of the United States
Nelson A. Rockefeller

Appointed by the President of the Senate

Honorable Henry M. Jackson
Honorable Frank E. Moss
Honorable Hugh Scott

Appointed by the Speaker of the House

Honorable Elford A. Cederberg
Honorable George H. Mahon
Honorable Sidney R. Yates

Appointed by a Joint Resolution of Congress

Mr. John Paul Austin
Dr. John Nicholas Brown
Dr. William A. M. Burden
Dr. Robert F. Goheen
Dr. Murray Gell-Mann
Dr. Caryl P. Haskins
Honorable A. Leon Higginbotham jr.
Mr. Thomas J. Watson jr.
Mr. James E. Webb

National Board of the Smithsonian Associates

Mr. Lewis A. Lapham, Chairman,
Mr. Harry Hood Bassett, Mr. John W. Brooks,
Mr. Richard P. Cooley, Mr. Joseph F. Cullman 3rd,
Mr. Harry B. Cunningham, Mr. Paul L. Davies,
Mr. Leonard K. Firestone, Mr. Charles T. Fisher III,
Mr. G. Keith Funston, Mr. Alfred C. Glassell jr.,
Mrs. David L. Guyer, Mr. Ben W. Heineman,
Mr. Henry J. Heinz II, Mr. William A. Hewitt,
Mr. Frank Y. Larkin, Hon. George C. McGhee,
Mrs. Robert S. McNamara, Dr. Ruben F. Mettler,
Mr. Charles M. Pigott, Mrs. Malcolm Price,
Mr. Francis C. Rooney jr., Mr. Merritt K. Ruddock,
Mr. Thomas J. Watson jr., Mr. James O. Wright

Smithsonian is published monthly by the Smithsonian Associates, 900 Jefferson Drive, Washington, D.C. 20560. © Smithsonian Institution 1975. All rights reserved. Reproduction in whole or in part without permission is prohibited. Subscription price $10 a year in U.S. and possessions, $12.50 elsewhere. Single copy price $1.00. Second-class postage paid at Washington, D.C. Editorial offices, 900 Jefferson Drive, Washington, D.C. 20560. Advertising and circulation offices at 420 Lexington Ave., New York, New York 10017. Please address all subscription correspondence and change of address information to P.O. Box 5300, Greenwich, Conn. 06830

June 1975

Smithsonian

Volume 6, Number 3

Table of Contents

COVER: This spotted or "laughing" hyena is pictured in its Serengeti grasslands habitat (p. 38)
Photograph by Tom Nebbia

6 The view from the castle: Secretary Ripley describes a single tree that hosts some 65 species of Indian birds

8 Letters to the Editor

18 Phenomena, comment and notes: Vitamin C and cholesterol, victory over snails, Everest challenged and tales of Squanto

28 Modern scholars begin restoration on the stained-glass windows of historic Canterbury Cathedral
Text by Maureen Green, photographs by Farrell Grehan

38 The ugly hyena turns out to be a superlative hunter—but its ingenuity often pays off in a feast for lions
Text by Cynthia Moss, photographs by Hans Kruuk

48 Ozone—the trick is to keep it in the stratosphere where it's needed, not down here where it can be poison
By Mariana Gosnell

58 Diego Giacometti, widely known through sculptures by his famous brother, wins recognition on his own
Text by Robert Wernick, photographs by Ralph Crane

68 Uncle Sam not only neglects his vast island holdings, he doesn't even keep count of how many he owns
Text by Gary A. Soucie, photographs by George Silk

76 "Confederate Air Force" grows from a flyer's hobby into a superb collection of World War II planes
Text by Joseph E. Brown

84 James Van DerZee compiled photographic survey of life among middle-class blacks of his day
By Clarissa K. Wittenberg

92 Around the Mall and beyond

98 Book reviews

105 Smithsonian tours

106 Additional reading

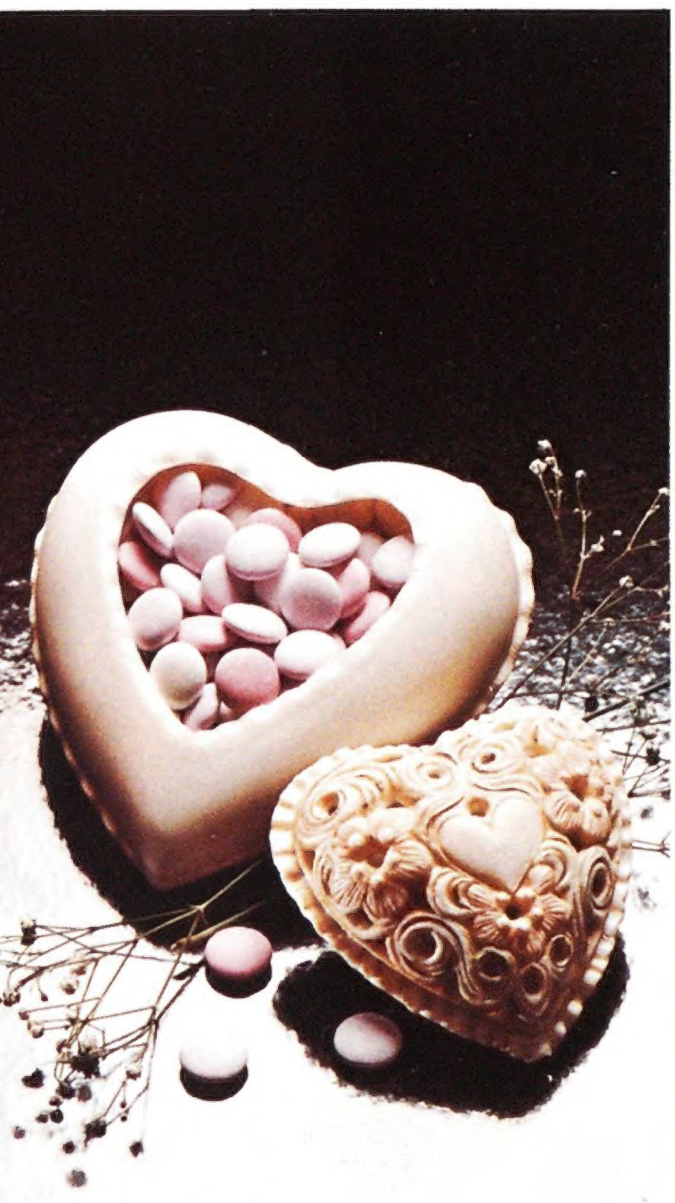
108 June events at the Smithsonian

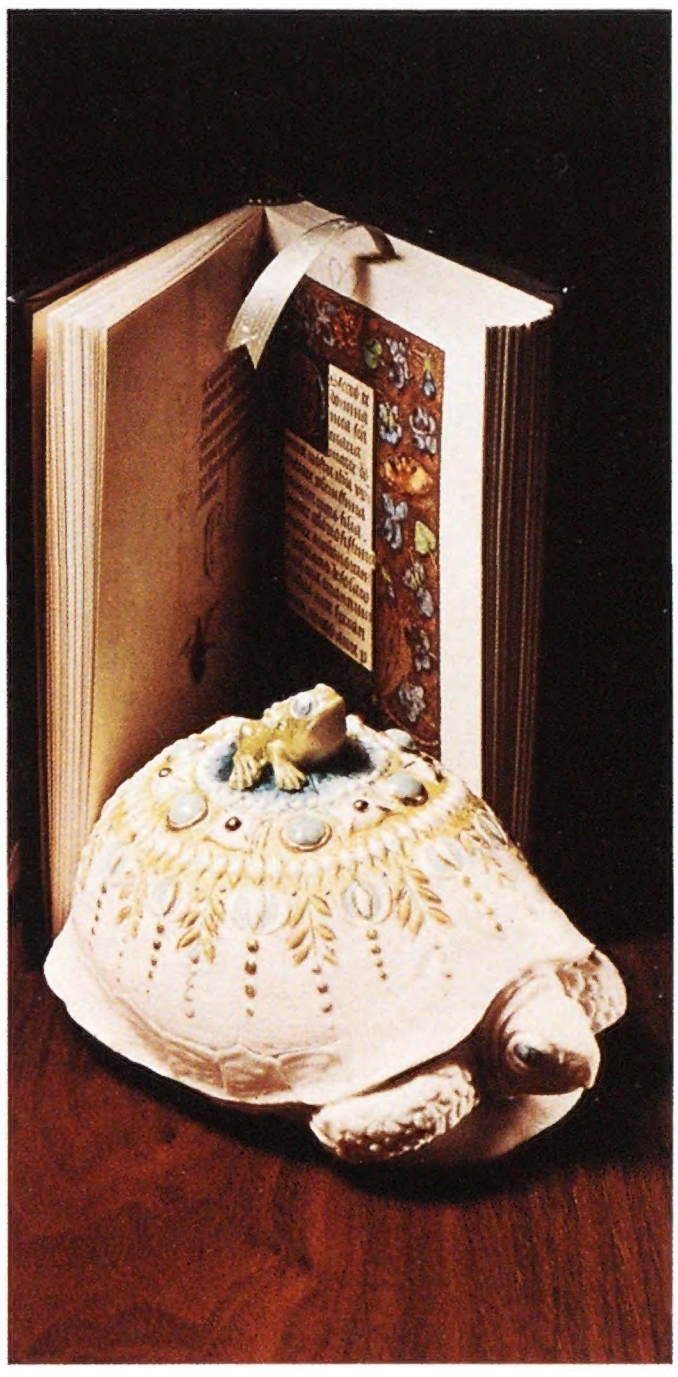
112 Inflation may sometimes be what's needed
By Patrick Ryan

Brielle China & Galleries

In Spirit of Gaiety

...the Artists of Cybis embellished nature to create the collection they entitled Caprice...playful fancy. This gentle artistry comprises a calendar of happy moments, sentiments and daydreams. No eye ever beheld a Lady Bug as richly bedecked as CYBIS's Duchess of Seven Rosettes . . . sheer exuberance explains the gorgeous jewel-like colors of her wing-cases. The turtle extraordinaire with the little green frog perched on his brilliantly emblazoned carapace make irresistably amusing companions. The Lidded Heart is the treasure chest of love, filled with fond thoughts and sweet remembrances.





The Caprice Collection

Lidded Heart, "Thinking of You"
3"H x 4"W x 4½"L ..... $75.

Turtle, the "Baron"
3"H x 3½"W x 5"L ..... $75.

Lady Bug, "Duchess of Seven Rosettes"
2"H x 4"W x 5"L ..... $75.

Visit our CYBIS Collector's Gallery exhibiting a representative selection of early and current sculptures. Charge accounts invited. American Express, Master Charge and BankAmericard accepted. Brielle China and Galleries in Brielle, New Jersey 08730. 201 528-8400.

CYBIS In Retrospect...$5.00. A 96-page Museum Publication in burnished gold slip case illustrating the porcelain sculptures, graphics and paintings by CYBIS... reflecting the Man, the Artist, and the Studio. With your purchase of the CYBIS Caprice Collection you will receive a complimentary copy.

DOUBLE EAGLE
Goodyear presents a major improvement in radials.
The smooth-riding Double Eagle with Flexten.

Goodyear is pleased to announce a major improvement in radials.

A ride of extraordinary comfort.

If you've been riding on steel-belted radials, you realize that's quite a claim. And the reason we can state it so unequivocally is Flexten.

Flexten is a revolutionary new tire cord (under development for the past seven years) which Goodyear is introducing in the belts of this tire for the first time.

There are two truly remarkable things about Flexten. One is its flexibility. It's this quality that separates the Double Eagle from conventional steel-belted radials.

You see, Flexten has a greater capacity than steel to give, to allow for irregularities in the road. And so, a Flexten-belted radial will give a smoother, quieter, more comfortable ride than any steel-belted tire we've ever made. How much so, you'll have to feel to believe.

The second remarkable fact about Flexten is its strength. Pound for pound, it's five times stronger than steel. So it follows you'll be riding on the strongest radial we've ever made.

More comfort. And peace of mind. Things you thought you couldn't buy at any price.

GOODYEAR

Double Eagle, Flexten TMs The Goodyear Tire & Rubber Co.

Double Eagle

Secretary Ripley's comments

The view from the castle

A feast for the senses beneath a semal tree, dawn host to some 65 species of Indian birds

Mr. Ripley's temporary castle in India, photographed by Mrs. Ripley.

One of the glories of the Indian forest is the semal (*Salmalia malabarica*), a softwood tree that belongs to the family of the silk-cotton or kapok. Often it is the tallest tree, standing out above the hardwoods. Its candlelike buds finally burst into pinkish-scarlet blossoms in late February; in the early morning, the dusty orange sun lifts over the hazy green hills and glances off the even carpet of green trees, setting the huge parasol of flowers ablaze. By 6:30, as we approach the tree on a winding forest road, we can see from far off that the crown is alive with birds.

The *Salmalia* flower is the size of a small teacup, the petals forming a ring around the upright yellow and red stamens and style rising in the center. Nectar is secreted at the base of the cup and it is this which draws the crowd. The birds dip their heads down to the base of the flower, and their crown feathers become coated with pollen. Successive visits to the flowers eventually fertilize the ovules which form seed. So bird pollination is crucial to the life cycle of this fast-growing softwood.

To reach the tree, we have left our forest bungalow at about six and have crossed the Mahanadi River in western Orissa at the ghat, the declivity which terminates in a bathing place and ferry. A hundred and fifty years ago the Daniell brothers and George Chinnery, in their "views of Indian life," painted and drew scenes such as this on the bank of the stream, with feathery palms and banyans or mango rising in the background against the smoke from the village fires, while in the foreground are buffalo being driven down to the water, graceful women bathing and filling brass or pottery jars, and the ferryman, lithe and handsome in his dhoti, with full beard and curls. The dust haze and mist are all there, the calls from the village, and the sharp crying of the lapwings flying over the water: "Did he go, did he go?"

Finally we stand below the tree, its canopy a hundred feet or more above. A gentle rain of flower parts and blossoms falls about us. Two species of long-tailed green parakeets are feeding: the blossom-headed with rosy plum-colored heads, crunching the scarlet flowers, and the large Indian parakeet, black-collared, red-billed, with more deliberate and hoarser calls. The parakeets simply chew up the flowers.

Barbets, green with brownish-streaked heads, are feeding on the nectar, as are haircrested drongos with their brush tongues so well adapted for nectar feeding. Two species of bulbuls are there, jaunty and crested, and six species of mynas: hill-mynas or "grackles," so-called, the talking birds; common and jungle mynas, Brahminy and pied mynas, and the greyheaded. The larger species tyrannize the smaller, which in turn scare off the green chloropsis, and its cousin, the smaller, yellowish iora. Sunbirds of two species dart among the throng, glittering iridescent black and yellow in the sun, and even tinier birds, flower peckers and warblers, keep up incessant movement, seeming at that height like bumblebees. The intensity of feeding is so great and the noise so compelling that even relative nonfeeders, small woodpeckers, are drawn into the branches.

A hawk called a shikra coasts overhead, a bird-hunter, but the diners are too busy to move. Only the long-tailed magpies give a raucous, hollow alarm note. Some 65 species of birds have been recorded feeding on the flowers of the semal.

The sun is up now and soon the birds will have left the wilting flowers, which droop and fall, raining like blood on the ground below. The noise carries with us for a long distance as we draw away, spellbound. Tomorrow we will join the feast again, bathing our senses in the reflected light and color, and the strident cacaphony at the great feeding tree.

S. Dillon Ripley

Shape of ALASKA

The strength and simplicity of native Alaskan art radiates an abiding respect for the creations of nature. We at Phillips Petroleum share that respect.

As we search for and develop the energy resources of this fierce yet often fragile environment, we are taking every precaution to insure minimal disturbance of land, water and wildlife.

The fresh beauty of Alaska, reflected in the art of its people, is a priceless heritage. We are committed to protect it.

PHILLIPS 66

The Performance Company

Illustrated: Ivory, bone and wood carvings by Alaskan Eskimo artisans, collected over the last century during Smithsonian Institution expeditions.

What can't be described must be experienced.

One view from the Doge's Palace doesn't give you Venice. Because some things are so special they have to be felt. Experienced.

Our purpose is to provide the conditions and opportunities for these unique moments. Starting July 26, 1975 our newly christened 100th Anniversary Celebration ship, m.t.s. Daphne, will sail on six remarkable voyages. To historic maritime capitals. To the 4,000-year-old palaces of Crete. To Homer's birthplace and the Blue Mosque. To native festivals, Vivaldi concerts and deserted beaches. Some will visit our own new resort, Porto Carras.

All of them will include the special freedom of doing absolutely nothing but enjoying every amenity of gracious relaxation aboard one of the most spacious ships afloat.

For a 36-page, full-color brochure describing our Experiences, please contact your travel agent or Carras. Reading it won't be the same as joining us. It will just make it very hard not to.

Carras

630 Fifth Avenue, New York, N.Y. 10020, (212) 757-0761.

The m.t.s. Daphne and m.t.s. Danae,
each of 17,000 gross tons, are registered in Greece.

Letters to the Editor

Scythian gold

Dear Sir: Rudolph Chelminski's article on the USSR Scythian gold exhibition in your April issue whets my appetite to see it when it arrives in Los Angeles. Lee Boltin's photographs were superb.

I am sure the Soviet Union has an abundance of art treasures from its historical past that would prove exciting and educational to Americans. And many of us would find discovery of such art far more rewarding than always hearing about Russia's political side.

Anita Hicks
Van Nuys, California

Nutrition

Dear Sir: In regard to your article, "Our diets have changed, but not for the best," I agree that our diets have changed since the time of Franklin, Lincoln and James Smithson, but those wise men with knowledge of the past and present would know that these changes have been for the better. The fact is that nutritional diseases in the United States (such as rickets, scurvy, beriberi and pellagra in infants and adults) have been overcome because the food industry has closely followed the recommendations of nutritionists and public health officials.

We do have public health problems of dental caries, cardiovascular disease and diabetes, but speculations that these diseases are the results of baby foods, sugar, salt and food additives is simplistic nonsense. The deplorable feature of this article is the acceptance of half-truths to criticize government and industry, as well as the free enterprise system and the

people who find it preferable to use their own judgment in feeding themselves.
Robert A. Stewart
Director of Research
Gerber Products Company
Fremont, Michigan

Dear Sir: In regard to your article on nutrition, the author, Dr. Michael Jacobson, Director of the Center for Science in the Public Interest, is considered by many scientists to be controversial.

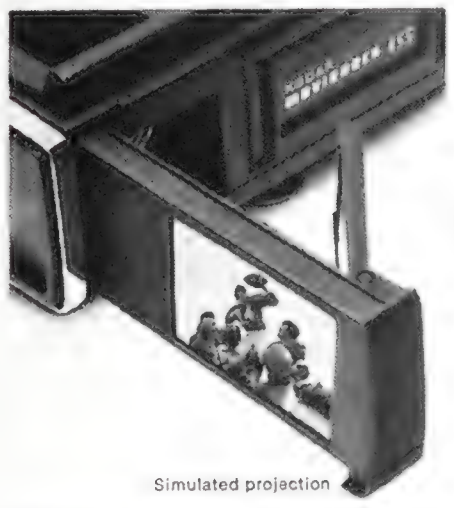
At a recent meeting of the National Nutrition Consortium, Incorporated (a consortium of scientists from the American Dietetic Association, the American Institute of Nutrition, the American Society for Clinical Nutrition and the Institute of Food Technologists), there was considerable discussion of Dr. Jacobson's activities. It was the opinion of the group that certain aspects of Dr. Jacobson's work may be a disservice to the public and to nutritional science.
Harold H. Sandstead, M.D.
U.S. Department of Agriculture
Grand Forks, North Dakota
The purpose in publishing the article was not to condemn government or the food industry, but to inform our readers of areas of nutrition that many people in the field consider dangerous trends. All of the points in this article were read and approved by a number of reputable doctors and nutritionists. We are aware that some aspects of Dr. Jacobson's work are considered controversial. Perhaps the basic disagreement is a philosophical one: It is our judgment that rather than wait for the complex etiology of all diseases to be worked out, it is important to alert people to possible dangers now. Ed.

Dear Sir: One of our major health problems is not only the changes in our diet but the rapidity of these changes from the evolutionary standpoint. The British physicians, T.L. Cleave and G.D. Campbell, point out in their book, *Diabetes, coronary thrombosis and the saccharine disease,* that the marked alterations in our Western food in the past few decades have occurred in too brief a time to permit "evolutionary adaptation."

We do not eat enough foods high in proteins, fiber, vitamins and minerals, and we eat entirely too many junk foods which are polluted with additives and rich in harmful refined carbohydrates. It is not surprising that our national

Kodak shapes up the movie projector.

You'll wonder where the reels have gone when you first look at the Kodak Moviedeck projector. They're there, of course. But Kodak's found a way to keep them inside, out of the way.



Simulated projection

That's what helps make the Moviedeck projector so handsome. So convenient, too. Because you don't have to put it away between shows.

The three top models of the Moviedeck projector have a special pull-out viewing screen. So you can preview your movies without ever having to set up a big screen or dim the room lights.

Kodak Moviedeck projectors—all handsome, all self-threading, all easy to use, all for 8 mm or super 8 movies—start at less than $110. Some have automatic rewind and multiple projection speeds. Model 455 shown is less than $200. See your photo dealer. Prices are subject to change without notice

The Kodak Moviedeck projector

Kodak

"Only float we'd have in our pool!"

JC, Detroit, Mich.

The Unsinkable Sunfloat.®

nothing to inflate, completely puncture-proof

At last . . . a puncture-proof float that needs no inflating! Made of the same material as Coast Guard approved life vests, Sunfloat is guaranteed to stay buoyant for a *minimum* of 5 years. Incredibly comfortable, it conforms to your body like a water bed. Great for pools, lakes, oceans, beaches, boatdecks. 27"x72"x2". Rolls up in carrying case. In White, Yellow or Turquoise.

"*Sensational!*" AMH, ALABAMA/"*The Greatest*", CJ, FT. LAUDERDALE/"*They're the best!*" MGW, TENN./"*Anyone who doesn't have one is crazy*", GLP, MAINE/ "*Fantastic! Abused by teenagers all summer long, still like new*", MP, SCARSDALE/"*Bought 2 four years ago, still like new*", JHR, NEW MEX./"*Sorry I wasted so much money on junk before I found Sunfloat*", MW, TEXAS.

$89.00 ppd. Refund if not delighted. Sunfloat—we promise it won't let you down!

The Sunfloat Company,
2001-S Carew Tower,
Cincinnati, Ohio 45202

Please send me_____
SUNFLOAT(s) w/zippered carrying case at $89.00

☐ White w/Blue Seahorse
☐ Yellow w/Orange Seahorse
☐ Turquoise w/White Angelfish

Name _____

Address _____

City _____ State _____ Zip _____

☐ Charge American Express Card #

☐☐☐ ☐☐☐ ☐☐☐ ☐ ☐☐☐

☐ Check Enclosed Expires _____

Signature _____

"health bill" is now some $100 billion a year. Proper nutrition could accomplish more than any other one thing toward improving the deplorable state of our health and the financial burdens that result. Your article has made a great contribution toward that end.
H. Curtis Wood jr., M.D.
Philadelphia, Pennsylvania

Dear Sir: Dr. Jacobson laments the fact that "no persons, governmental agency or private organization in the United States has had the mission or authority to develop a broad national food policy. . . ."

It is true that if there were a national food policy, we all might be healthier—but that misses the point. If the American people choose to eat foods that are not good for them, it is not up to me or Michael Jacobson to prevent them.

Nutrition has long been taught in schools, and we continue to have unbalanced diets. We have decided that we would rather eat beef than vegetables and that we want all our foods well laced with salt and sugar.
Geoffrey W. Sjostrom
St. Petersburg, Florida

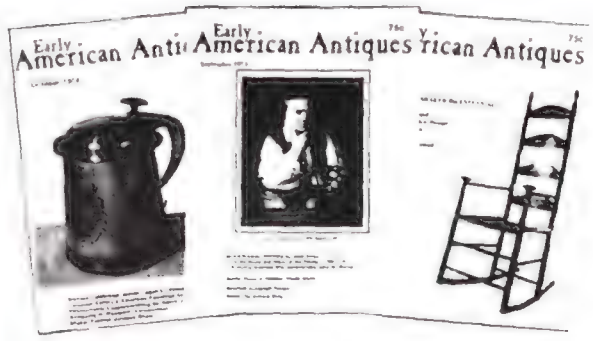
Edward S. Curtis

Dear Sir: In his article on Edward S. Curtis, author Caspar Weinberger jr. notes that Curtis' portrayal of North American Indians "now appears to be coming 'out of the darkness.'" Actually, the rediscovery has been going on for several years, notably in such shows as these: Pierpont Morgan Library in 1971, Philadelphia Museum of Art in 1972, Huntington Library in 1973 and T. C. McLuhan's film, *The Shadow Catcher,* at the Whitney Museum of American Art in January.
Robert E. Ferguson
Houston, Texas

The Shadow Catcher *will also be televised nationally by the Public Broadcasting Service on June 30.* Ed.

Bicentennial

Dear Sir: Edwards Park, in describing the events at Lexington and Concord 200 years ago, says "Americans know nothing except a smattering of the Indian tactic of hide-and-snipe." It seems that hide-and-snipe *was* the tactic used by Americans.
Mrs. George N. Webb
Baltimore, Maryland



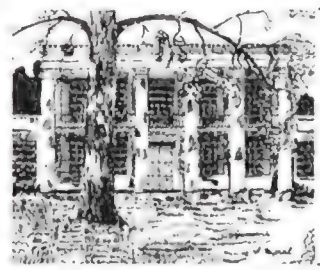
Early American Antiques

"...the most exciting new antiques magazine to appear in 25 years."

- Visits to historic homes & restorations.
- Great collections of Americana.
- Identification and care of antiques.
- Reports on major sales and auctions.
- National listing of antique shows, exhibitions, and Bicentennial events.

12 monthly issues $8.00
6 month trial $4.00

EARLY AMERICAN ANTIQUES
Dept. 248 , New Hope, Pa. 18938



SOUTHERN HOMES
10 various 5" × 7" note cards ideal to frame
Peggy Kapral
P.O. BOX 99681, TACOMA, WA. 98499
$7.50 plus $.85 postage and handling (add appropriate sales tax)

THE DAWNSEEKERS

The First History of American Paleontology

BY ROBERT WEST HOWARD

Foreword by Gilbert F. Stucker, The American Museum of Natural History

The heroic history of those natural philosophers and scientists who challenged the biblical account of Creation—and won.

$8.95

HARCOURT BRACE JOVANOVICH

International Paper explodes a myth about its forests.

Some people think we use our forests just to make products.

That's probably because we do make a lot of wood and paper products. Long-Bell® cabinets (like those in the picture). Lumber for homes. Plywood. Utility poles. Pulp. Paper. Linerboard. Corrugated containers. Milk cartons. Hundreds of different products.

But we also use our forests for things that money can't buy.

A home for wild animals.

In 1957 we started a wildlife program to make sure our forests would make the best possible home for wild animals. Here are some of the ways we help Mother Nature.

We thin the woods to flood the forest floor with life-giving sunlight. This encourages the growth of tender shoots, twigs and leaves that animals love to munch on.

We plant rye, chufa nuts, and wheat.

In some places we even cut down tall grasses which, oddly enough, increases the number of insects for young quail and turkeys to gobble up.

We usually harvest with an irregular border to give animals more enticing areas for browsing and better cover.

We'll spare the nesting tree of a red-cockaded woodpecker. We've restocked alligators (an endangered species) in the swamps of Arkansas. We saved 500 deer from starving during the '73 Mississippi flood.

We're rewarded. There are now more deer, quail and rabbits in our managed forests than there were 100 years ago.

A haven for Man.

We believe our forests should also be used for Man's enjoyment. Last year, over 2,000,000 people enjoyed some form of recreation on our lands.

We allow hunting and fishing on just about all of our timberlands.

We open our woods to everyone whenever we can—hikers, campers, bike riders. We even have areas with boat-launching ramps, picnic sites, and, in some cases, nature trails.

More water, better air.

Forests help conserve water. In fact, three-fourths of America's freshwater supply comes from a third of her land—the forest lands.

Tree limbs, leaves and mulch help save water by slowing down the runoff of rain. This also checks erosion.

Another good thing about trees. They increase the supply of available oxygen—if they're *growing* trees. (Old trees actually use up as much oxygen as they give off.) The fact is, an average acre of vigorously growing trees can breathe in 5 to 6 tons of carbon dioxide and breathe out 4 tons of fresh oxygen every year.

Take a deep breath. Today, International Paper is reforesting its lands with five trees for every one it harvests.

Getting the greatest us from our forests. Another example of International Paper's responsiveness to a fast-changing world.

INTERNATIONAL PAPER COMPANY

220 EAST 42ND STREET NEW YORK, NEW YORK 10017

To get you to come to Europe, a country has to give you more.

Getting people to come to Europe in 1975 is no easy trick.

The country that gets the most tourists will be the one that offers the most sightseeing, food and surprises.

So that's what Alitalia's Italy is offering.

Not just the sacred Pietà in Rome. But the wicked Fountain of Shame in Sicily.

Not just Osso Buco in Milan. But spaghetti in a paper bag in fantastic Amalfi.

Shopping on the elegant Via Condotti. And bargaining at the flea market of Rome.

Alitalia's Italy offers all these reasons to come and we haven't even talked to you about money yet.

Special Tour of the Month Sale

Alitalia has come up with over 50 money-saving tours of Italy.

But that isn't all. Between May and December, we'll be running a special Tour of the Month Sale on eight of them. It will mean an extra 10% off land arrangements! That's in addition to the usual big savings on airfares.

You'll get discounts on shopping, rent-a-cars and scooters. Discounts on fantastic meals and luxurious hotels. Museum passes, even bottles of wine in your room.

Talk to someone who really knows. Your travel agent.

Or call Alitalia.

And take advantage of a buyer's market.

Alitalia

People are traveling less.
We have to give you more.

The British knew nothing *of hide-and-snipe tactics. Of the Americans, only a very few had actually been in the French and Indian Wars. Most were inexperienced in any but village green drills. A great many were still in their teens. They used what they knew, but they took far heavier losses from the flanking sweeps by British Light Infantry than more experienced soldiers would have suffered.* Ed.

Phenomena

Dear Sir: Your statement that the aardwolf-hyena similarity might be the first instance of mimicry among large mammals is not completely correct. You are correct in the classical meaning of the term, where the model and mimic are different species. However, more recently mimicry has been found to occur within species, most notably where one of the sexes mimics some feature of the opposite sex. There are several large mammals exhibiting apparent mimicry of this sort. Examples are: the spotted hyena [p. 38], where the female's genitalia most convincingly mimic those of the male, and the Hamadryas baboon, in which the male mimics the pattern of the female's sexual skin.

Christen Wemmer
Conservation and Research Center
National Zoological Park
Front Royal, Virginia

Dear Sir: Your note titled "Not a laughing matter" reminds me of something to laugh about.

The story goes that a zoologist purchased an expensive camera for his trip to Africa and, because of his carelessness, a hyena ate it. Ate all of it. Oh, he spit out the lens and frame. The camera was insured and, when the scientist filed a claim, he was told that the company would not pay off on hyenas. However, if an aardwolf ate it they would settle—they were programmed for aardwolves.

Herbert F. Poehle
Boca Raton, Florida

National Trust

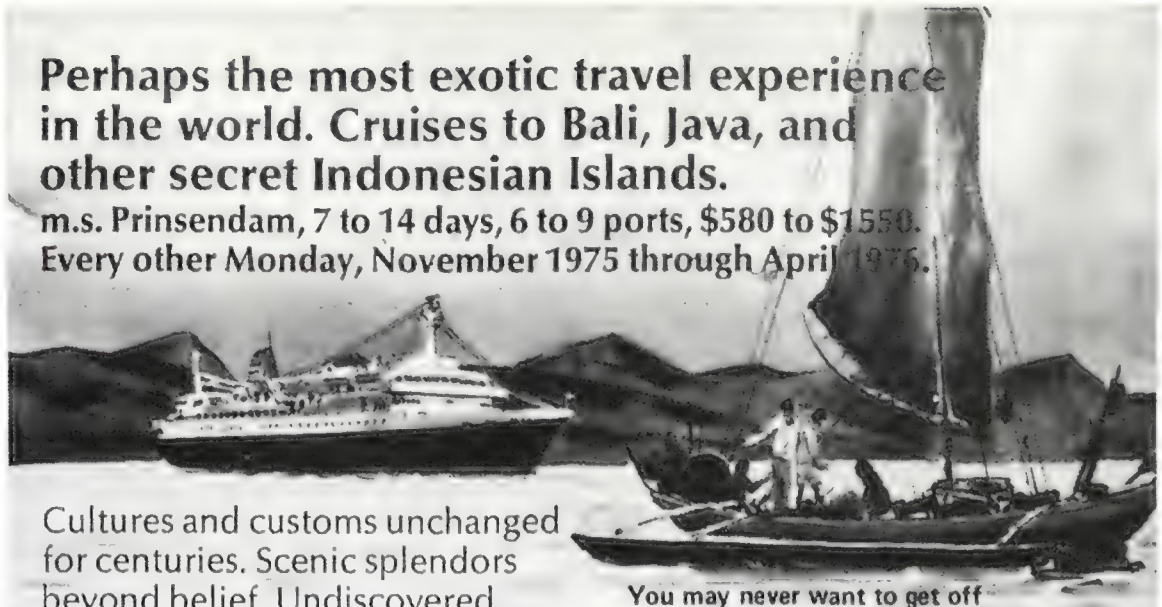
Dear Sir: Please tell me where to write regarding membership in The Royal Oak Foundation.

William H. Weber
Calabasas Park, California

For Mr. Weber and numerous other read-

Perhaps the most exotic travel experience in the world. Cruises to Bali, Java, and other secret Indonesian Islands.

m.s. Prinsendam, 7 to 14 days, 6 to 9 ports, $580 to $1550.
Every other Monday, November 1975 through April 1976.



Cultures and customs unchanged for centuries. Scenic splendors beyond belief. Undiscovered mystery and enchantment. All on a luxurious ship specially designed to slip through misty island waterways.

All-inclusive tours, with a 14-day cruise, from $2295.
25 days from Los Angeles via Tokyo, Singapore, and Hong Kong on Northwest Orient Airlines. 23 days from New York via KLM. Stopovers at Amsterdam, Singapore, and Bangkok. Other tours include 7 and 14-day Indonesia cruises. See your travel agent or mail the coupon.

You may never want to get off

Holland America Cruises

Holland America Cruises
Two Penn Plaza, N.Y., N.Y. 10001
Tel: (212) 760-3880
or Toll-free at (800) 221-6657
Please send me the brochures on:
☐ Indonesia Adventure Cruises
☐ Tours from Los Angeles
☐ Tours from New York
Name_____
Address_____
City_____ State_____ Zip_____
My travel agent is_____

The m.s. Prinsendam is registered in the Netherlands Antilles.
All fares per person, double occupancy, subject to availability. Minimum rates may not be available on all the above listed sailings. 117-PSB-6

Buy protection. Or else!

Every minute of every day fire strikes another home, and every 10 seconds someone is burglarized. Years of memories; photographs, collections, the pocket watch your dad left you, are destroyed or stolen. Mementos once lost, can never be replaced. How about tax records. Policies. Wills. Passports. Expensive cameras. Coins. Stamps. Even cash and jewelry.

You could put them in a safe deposit box, and enjoy them at the bank's convenience.

Greatwood offers you a beautiful alternative that allows you to enjoy your treasured possessions at home, while keeping them secure.

The Protector, uniquely designed and constructed for home or office. A sophisticated UL fire tested safe that protects your valuables from loss by fire, vandalism or theft. For $295.

Two removable drawers.
Exclusive one piece steel frame construction.
Steel walls with incredible Pyronox insulation equal to 3 ft. concrete wall.
U.L. label.
Two ⅝" solid steel dead bolts.
Heavy bank type solid 4" locking bolt.
Three number combination lock with punch proof security features

Incidentally, if you store tax records in **The Protector**, the entire cost is tax deductible.

So that only you may know where your safe is, we've disguised it as a functional table. However, should **The Protector** be discovered, its rugged construction will discourage all but the most professional thief. The handsome cabinet (26"H x 19"W x 26"D) is custom molded in a grained walnut finish with a textured slate-like inset on top. It blends beautifully with any decor; in your bedroom, living room or den. The cabinet is shipped for easy assembly.

Come in and see **The Protector**. Order by mail or phone. Or ask for brochure No. SS6-5
30-day money back guarantee.

The Protector. For **$295** only you know how much protection you're buying.

GREATWOOD
Greatwood Products, Inc.
800 Third Avenue, New York, N.Y. 10022 (212) 355-3160
101 S. Robertson Blvd., Los Angeles, Ca. 90048 (213) 273-5007

Please send me **The Protector**
☐ Inside dimensions (15"Hx12"Wx13"D) **$295**
☐ Larger inside dimensions (15"Hx12"Wx18½"D) **$345**
Plus $25 for delivery anywhere in Continental U.S.
Check enclosed $_____
Charge to: ☐ Master Charge ☐ BankAmericard ☐ American Express
Acct. No._____ Exp. Date_____
Name_____
Address_____
City_____ State_____ Zip_____
Telephone Number_____
N.Y. & Ca. residents add applicable sales tax. SS6-5

America

If you'll stop and think for just a moment, you'll find we have more of the good things in this country than anywhere else in the world.

Think of this land. From the surf at Big Sur to a Florida sunrise. And all the places in between.

The Grand Canyon ... the wheat fields of Kansas ... Autumn in New Hampshire ...

You could go on forever. But America is more than a place of much beauty. It's a place for good times.

It's Saturday night.

It's a trip down a dirt road in a beat up old jalopy.

It's your team winning. It's a late night movie you could enjoy a thousand times.

And, yes, when you're thirsty, it's the taste of ice- cold Coca-Cola. It's the real thing.

In fact, all of the good things in this country are real. They're all around you, plainly visible. We point to many of them in our advertising. But you can discover many, many more without ever seeing a single commercial for Coke.

So have a bottle of Coke ... and start looking up.

The Coca-Cola Company

ers who have inquired, the address is: Miss Arete B. Swartz, Executive Director, The Royal Oak Foundation, 53 East 92 St., New York, New York 10028. Those who join are automatically given affiliated National Trust membership and free entrance to Trust properties in England, Wales and Northern Ireland, as well as the National Trust of Scotland. Ed.

Dear Sir: In Timothy Green's article on the National Trust, he states that the Stars and Stripes flies overhead at Washington Old Hall on Independence Day, November 23 and Washington's birthday. What is the significance of November 23?
Frances St. John
Valley Forge, Pennsylvania
Instead of November 23, we should have stated that the flag is flown on Thanksgiving Day. Ed.

Salt marshes

Dear Sir: Gary Soucie's article in your March issue on the salt marshes of Georgia and South Carolina is an important one, but there are inaccuracies in his figures on the value of marsh-produced seafood in South Carolina. The landed value of oysters has been about $625,000 in recent years. For this landed value to yield a gross profit of $5 million, it would be necessary for oysters to retail for $5.01 per pound of meat. Thankfully, this has never occurred. Shrimpers do not usually add more than $10 million annually to the state's economy—that figure has been reached only once in recent years.
Kenneth J. Roberts
Clemson University
Clemson, South Carolina
Professor Roberts is correct. Dr. Edwin Joseph, Director of the South Carolina Wildlife and Marine Resources Center, says that the low value of oyster production in recent years is the result of economic factors which are being overcome. Ed.

Smithsonian Tours

Dear Sir: One thing that always baffles me is why you include your Hawaiian Islands tour under "Foreign study tours."
Elizabeth Lewis
Honolulu, Hawaii
It isn't lack of pride in our 50th state, but the Institution's foreign charter planners handle Hawaii for administrative purposes. Ed.

Notes from a Kenya safari.

Mt. Kilimanjaro, the breathtaking backdrop for the Serena Lodge at Kenya's Amboseli National Park. Swim in the lovely pool while you drink it all in.

The proud Masai. Dyed-to-match bodies covered with ochre clay. Great for snapshots because they're handsome—but so is their fee for posing!

Ultra-modern Nairobi, Kenya's capital and "base camp" for safaris. Fine restaurants, great shops. The tower? The stunning Kenyatta Conference Center.

20 minutes after a British Airways flight into Nairobi, spot lions in their habitat in Nairobi National Park. The thrill of a lifetime. Yours...not theirs.

For free literature, see your Travel Agent or mail coupon to Kenya, Box 1526, New York, N.Y. 10019. Or visit Kenya Tourist Office at 15 East 51 Street, New York City.

Name_____

Address_____

City_____

State_____ Zip_____

206-244

Kenya.

If you only go to Africa once.

INTRODUCING . . . A RARE COLLECTOR'S PRIZE

The Washington Irving Commemorative Sculpture Collection

BY RENOWNED AMERICAN SCULPTOR EDWARD DeWITT

EXCLUSIVELY PRESENTED BY

Artistic Classics

The Legend of Sleepy Hollow

Presentation Case
Length 17" ■ Height 11½" ■ Depth 7¼"

Washington Irving. His name brings forth a warmth of experience unrivaled in American literature.

From generation to generation, Irving's heartwarming and delightful stories are re-discovered and cherished by all.

In 1819-1820, Washington Irving's Sketchbook was first published. Now, more than one hundred fifty years later The Legend of Sleepy Hollow and Rip Van Winkle pay constant tribute to the first American author to win international acclaim.

Throughout the entire world these masterpiece stories have endured to become a legacy of "American" legend.

Original Sculpture Collection

By Direct Appointment . . .

How fitting, then, for Artistic Classics to commission by direct appointment . . . acclaimed American artist Edward DeWitt to sculpture this most rare and precious edition.

Each sculpture is completely hand cast, hand chased, and hand finished in 100% pure, certified, "lead free" pewter.

Each is hand detailed to absolute perfection and bears the name of DeWitt, the owner's registration number, and hallmark.

Only the finest of hand rubbed walnut can enhance such a magnificent collection. Each base has a traditional warmth of its own and compliments the most eloquent decor.

Strictly Limited Edition

This rare collection will be offered in a "strictly limited edition" of only 1000 sculptures of each of the characters depicted.

After the collection has expired . . . the molds used to produce each of these exquisite sculptures will be destroyed and placed on permanent display in the Artistic Classics Archives.

The Washington Irving Commemorative Collection is absolutely limited to one set per subscriber.

Hand Signed Certificate

A special "Certificate of Commission" will accompany each sculpture in the collection.

The owner's matching registration number will appear on the certificate along with the "hand signature" of master sculptor, Edward DeWitt.

The Official Seal of Artistic Classics "guarantees for a lifetime" the purity of each sculpture, the limited number of sculptures issued, and the extraordinary detail and hand workmanship.

As a Gift

Upon ordering your collection . . . Artistic Classics will reserve "As a Gift" in your name three beautifully hand finished walnut and lucite presentation cases.

One case will house the Headless Horseman and Ichabod Crane, entitled "The Legend of Sleepy Hollow."

Another case will house Rip Van Winkle, Dame Van Winkle and Wolfe, entitled "Rip Van Winkle."

The last case will house the sculpture of Washington Irving, entitled "Washington Irving". What finer a tribute to offer . . . to one who has offered so much.

Buy Back Guarantee

We are confident your edition will become one of the most rare and sought after collections ever . . . Because of this confidence, if for any reason you are not completely satisfied with your collection . . . Artistic Classics, Inc. will buy back your entire collection in its mint condition at the original issue price within a one-year period.

RIP VAN WINKLE

WASHINGTON IRVING

Presentation Case: Length 17" Height 11½" Depth 7¼" Length 12¼" Height 11½" Depth 7¼"
Each sculpture weighs 3½ lbs. minimum of fine pewter/approx. 7½" high

Hand-Signed Certificate

A special "Certificate of Commission" will accompany each sculpture in the collection. The owner's matching registration number will appear on the certificate along with the "hand signature" of master sculptor, Edward DeWitt. The Official Seal of Artistic Classics, Inc. "guarantees for a lifetime" the purity of each sculpture, the limited number of sculptures issued, and the extraordinary detail and hand workmanship.

Edward DeWitt . . . Master American Sculptor

It is said he has the sensitivity of Bierstadt and Catlin . . . The inspiration of Remington and Russell . . . Most importantly . . . his own self style and originality. A master of detail and authenticity . . . coupled with his strong love of American Folklore, has made him one of the most acclaimed American sculptors of our times.

More recently, his profound sculpting of the Double Eagle in association with the U.S. Bicentennial Society, and his dramatic works on President Gerald Ford, Robert Kennedy and Winston Churchill increased his already "dynamic" popularity. His nationally acclaimed sculpting on American wildlife and his superb works on American Folklore, particularly Pecos Bill of Texas fame, truly complement the finest collections. Aptly, we have chosen, Edward DeWitt, for this enduring tribute to Washington Irving.

©1975 ■ ARTISTIC CLASSICS, INC

ADVANCE REGISTRATION FORM

The Washington Irving Commemorative Sculpture Collection
Artistic Classics, Inc., 47 Orient Way
Rutherford, New Jersey 07070

The Washington Irving Commemorative Sculpture Collection is "strictly limited" to 1,000 registered and certified sets of sculptures, "The Headless Horseman," "Ichabod Crane," "Rip Van Winkle," "Dame Van Winkle" and "Wolfe," and "Washington Irving."

(Note: "Wolfe" is included at no charge with "Dame Van Winkle.")

LIMITED TO ONE COLLECTION PER SUBSCRIBER

Gentlemen:
Please reserve and certify in my name The Washington Irving Commemorative Sculpture Collection. I understand I will be billed in advance for $275.00 per sculpture approximately every 90 days prior to delivery of the following piece.

As a special gift, I will receive three presentation cases. (One case will be shipped with "Ichabod Crane," one with "Dame Van Winkle" and "Wolfe," and one with "Washington Irving.") These beautiful and decorous display cases will permanently protect and house my entire collection.

I understand that I can cancel my subscription at any time.

Enclosed is payment of $275.00 for "The Headless Horseman". (N.J. Residents add 5% Sales Tax).

☐ Check ☐ Money Order

Please bill my account number. ☐ American Express
☐ Master Charge* ☐ Bank Americard

Credit Card Number (all digits)

_____

*For Master Charge give the 4-digit number above your name ____ ____ ____ ____

Expiration Date _____

Signature _____

All orders subject to acceptance by Artistic Classics, Inc.

Name _____
PLEASE PRINT CLEARLY

Address _____

City _____ State _____ Zip _____

(Please allow 90 days for delivery) S-1-6

MAIL TODAY TO RESERVE YOUR COLLECTION

CYBIS dispels an ancient myth
Pegasus: myth perhaps . . . or a flight into an ancient reality. The Artists of CYBIS give you their answer in porcelain. Detail of form and meticulous sculpturing bewilder the *un*believer. From the CYBIS Fantasia Collection.
CYBIS®
Porcelain Enchantments
© CYBIS 1975. *Pegasus, one of an issue of 500*

The Museum Publication "Cybis in Retrospect" available for five dollars. CYBIS Porcelains, SF, 65 Norman Avenue, Trenton, New Jersey 08618.

For your invitation to a special Cybis exhibit featuring the CYBIS American Buffaloes and other Presidential Gifts of State from the Cybis Studio on Sunday afternoon, June 8th, please write Brielle China & Galleries, Highway 71, Brielle, New Jersey 08730 . . . or telephone (201) 528-8400.

Phenomena, comment and notes

Vitamin C and cholesterol, victory over African snails, challenge to Everest and the tale of Squanto

Naturally enough, the myths and folklore surrounding the arrival of our forefathers on these shores die hard, but historical revisionism has become almost a major academic industry—so much so that by now only pretty minor inaccuracies in the record are left to be corrected.

The latest to bite the dust concerns the activities of Squanto, an Indian who, it is said, walked into Plymouth on March 16, 1621, greeted the Pilgrims in English and showed them where to fish and how to plant corn, including the Indian practice of using fish as fertilizer.

Squanto and his advice are legitimate history, but Lynn Ceci, a graduate student in anthropology at the City University of New York, is offended by the phrase "Indian practice." Writing at great length in *Science* (Volume 188, Number 4183), she points out that the Indians of the region practiced a shifting agriculture, burning new areas when old fields wore out. She quotes contemporary accounts of Indian farming practices such as this: "The ground they never fatten with mucke, dounge, or any other thing . . . as we do in England." Indeed, even after observing the obvious advantages of manuring, the Indians long regarded the practice as too labor-intensive.

And as for Squanto, it seems that he was kidnapped by Europeans, perhaps twice, (one wonders why he was so forthcoming with the Pilgrims) and had spent a good deal of time in an English settlement in Newfoundland where he must have observed their farming practices,

A VOLVO DISCOVERY: RAIN FALLS ON REAR WINDOWS, TOO.

Volvo was the first wagon maker with the foresight to provide its rear window with a wiper and washer as standard equipment.

Volvo has also discovered that everyone doesn't buy a wagon to be fashionable. Many people buy wagons to carry things.

So we didn't design Volvo's cargo area low and sleek to accommodate a styling trend. We designed it high and practical, to accommodate things like a six-foot sofa and two chairs (with the rear seat down). Or three six-foot people and 12 two-suiters (with the rear seat up).

Volvo's rear area not only holds a lot, it comes with a lot. It has its own heating and ventilation vents, its own three-point seat belts, electric rear window defogger, carpeting, tinted glass and childproof door locks.

And Volvo's back door swings up out of your way, instead of out into your stomach. Or down into your knee caps.

It doesn't take a college degree to appreciate the thinking behind our wagon. So we leave you to consider this. If the rear end of your car isn't as well thought-out as Volvo's, what other part might not be?

VOLVO

The wagon for people who think.

© 1974 VOLVO OF AMERICA CORPORATION. OVERSEAS DELIVERY AVAILABLE.

To make a true Riesling we crush a 2000 year old grape.

At Almadén, we believe America has only one true Riesling grape. Johannisberg Riesling.

This magnificent thoroughbred has its origin in the lush valley of Germany's famed Rhineland. It was there over 2000 years ago that this incomparable grape was born—born with a remarkable quality that only one variety of white wine grape in a hundred is likely to possess: the ability to transmit its flowery bouquet, its delicate fruitiness, its refreshing clean character to a superb wine of unmistakable class.

Today, true descendants of this true Riesling grape flourish in the Almadén region of Northern California. And the result, Almadén Johannisberg Riesling, is a thing of beauty.

Only a fine grape can produce a fine wine.

Almadén

Almadén Vineyards, Los Gatos and Paicines, California

which included the use of fish as manure.

So the affable Squanto, says Ms. Ceci, was little more than a cultural messenger from one bunch of Englishmen to another.

Redressing the balance

A common plant, long thought to have been a late European introduction to North America, has now been incontrovertibly shown to have existed here before Columbus. Writing in *Nature* (Volume 253, Number 5494), two scientists report that they have found the pollen and seeds of *Portulaca oleracea* in the precisely datable sediment layers of Crawford Lake near Toronto. This plant, a weed commonly called purslane, was apparently used by agricultural Indians as a potherb just as it was in Europe. So America-firsters who are depressed over the loss of fish manuring as an original American contribution to the world can take some consolation from the fact that our weeds were second to none.

Purslane, *si*; fish manuring, *no*.

Everest dethroned

It is not just history that is being revised these days: Even the most sacredly held facts are being swept away before our eyes. Mount Everest may no longer be considered the world's highest mountain—at least, geoidally speaking. And if you aren't used to speaking geoidally, what this means is that there is another mountain peak which is farther from the Earth's center than Everest's. According to the Smithsonian Astrophysical Observatory (which made the calculations from satellite observations at the behest of the editors of the *Guinness Book of Records*), Ecuador's equatorial Mount Chimborazo, which lies athwart the Earth's bulging midriff, is 2,151.2 meters farther from the

That's right. The Bicentennial belongs to every American family.

And it's a lucky thing the Bicentennial is coming along now when we need it most. When the American concept, the American dream is being questioned both at home and abroad.

But don't try to do a big selling job on your kids. Don't try to tell them why it's great to be an American.

Instead, take them where they'll be able to see, feel and understand it for themselves. Back to where it all began 200 years ago. To the Bicentennial. In Pennsylvania.

And what a grand and glorious happening it's going to be. A patriotic-historic adventure for the entire family.

Right now, before you start doing something else, send the coupon. You'll receive, free, a "Bicentennial Package" telling all about the great things your family will experience, enjoy and remember at the once-in-a-lifetime Bicentennial in Pennsylvania.

Travel Pennsylvania 1976
Room SM2
South Office Building
Harrisburg, Pennsylvania 17120

My family wants to go back to 1776.
Please send me your free "Bicentennial Package."

Bicentennial Pennsylvania 1976

So your children can tell their children.

Name _____

Address _____

City _____

State _____ Zip _____

Milton J. Shapp, Governor

Reproduced As Authentic Replicas In Satin- Finish Stainless!

NOT $44.95! NOT $34.95! ONLY $22.95!

Your home can reflect the gracious atmosphere of Early American Colonial elegance when you grace your table with this incredibly beautiful service. Through a special purchase, we can offer you the famous Pistol-Handled Flatware in magnificent, satin finish stainless steel at just a fraction of what you would pay for luxurious Sterling Silver. Each piece is a masterpiece of authenticity—an exquisite replica of the famous settings that highlighted many a candlelit Colonial dinner. The knives are the genuine hollow pistol grip handles; the forks are the graceful 3-tined design.

LIMITED SUPPLY AT THIS SPECIAL LOW, LOW PRICE

Don't be disappointed! Take advantage of this amazing low price while our supplies last. Order now and we'll send you the complete service for 8, including 8 Pistol Grip Hollow Handle Knives; 8 Dinner Forks; 8 Salad Forks; 8 Soup Spoons; 16 Teaspoons PLUS a SPECIAL FREE GIFT of a matching Butter Knife and Sugar Spoon—50 pieces in all. The entire set is yours for just $22.95 on full money back guarantee if you are not absolutely delighted.

CROWN-CASTLE Ltd., Dept. PGS-246
51 Bank St., Stamford, Conn. 06901

Please send me the 48 Piece Stainless Steel Pistol Grip Flatware set plus the FREE Butter Knife and Sugar Spoon for just **$22.95** on full Money Back Guarantee if I am not absolutely delighted. Please add $2.00 for postage and handling.

Enclosed is $ _____

Name _____
(Please PRINT Clearly)

Address _____

City _____

State _____ Zip _____

☐ **SAVE MONEY!** Order two sets for just $44.95 plus $2.00 post. & han.

Conn. Residents add 7% Sales Tax

An intriguing look at the art of the frontier...

and a stunning tribute to the American home

Frontier America
THE FAR WEST

Edited by JONATHAN FAIRBANKS. 44 color, 164 b & w ills. 256 pp. 10½ x 8½ ins. Museum of Fine Arts, Boston. $29.50

Bayou Bend
AMERICAN FURNITURE, PAINTINGS AND SILVER FROM THE BAYOU BEND COLLECTION

By DAVID B. WARREN. Foreword by IMA HOGG. 22 color, 355 b & w ills. 200 pp. 9 x 11¾ ins. Museum of Fine Arts, Houston. $35.00

At all bookstores

NEW YORK GRAPHIC SOCIETY
Boston, Mass. 02108/A Time Inc. Company

PRESENTING:
CIGARS OF THE MONTH

...a years subscription to the worlds finest cigars.

As a gift or for yourself. A medley of 12 of the worlds finest handmade cigar brands to delight the aficianado or introduce the novice to the joys of cigar smoking

Begin your plan at any time. Your first shipment of 8 hand rolled cigars will arrive gift boxed and accompanied by a certificate of membership to our unique plan. An informative letter of introduction to cigar smoking and a descriptive outline of the cigar brands to be shipped in future months will be enclosed Name of the giver will appear on each certificate.

3 MONTH PLAN . . . . . $21 pp
6 MONTH PLAN . . . . . $39 pp
12 MONTH PLAN . . . . . $76 pp

You receive a different brand each month (8 cigars monthly): Jan./Punch — Feb./Dos Gonzales — March/Bances — April/Hoya de Nicaragua — May/Tabacalera — June/Rey del Mundo — July/Flor de Mexico — Aug./Hoyo de Monterrey — Sept./Suerdieck — Oct./Upmann Nov./Danlys — Dec./Royal Jamaican

Please indicate the month you wish your plan to begin. Consecutive monthly shipments only. Send check, m.o. or BAC, MC or AmEx # and expiration date. Be sure to provide name and address of recipient if applicable. Catalog 50¢. Free with order.

Georgetown
TOBACCO & PIPE STORES
3144 M Street, N.W., Dept. SM,
Washington, D.C. 20007

Earth's center than is the Himalayan champion.

Setting pollution standards

There is so much talk of consumer and environmental protection in this country —and so many protests from various manufacturers about stiff standards—that one would assume the United States was pretty far ahead in protecting its citizens from toxic substances. But, according to Dr. Robert Metcalf, a Rockefeller Foundation entomologist writing in *RF Illustrated* (Volume 2, number 2), we have quite a way to go before we approach the standards used in the rest of the developed world. "In general, if you look at the Russian health standards for maximum allowable exposure to environmental poisons, they average about one-fifth or one-tenth of the United States levels." Lead, for example, is almost prohibited in Russian gasoline.

Much of the difference arises from methods. In the United States we require some "overt pathological effect on some organ of the system before we admit there is any effect." In Russia they look for behavioral changes. One way is to put a human in a room and add small amounts, of, say, lead aerosol to the atmosphere. As soon as an abnormal brain wave appears on an encephalograph the maximum is established.

Vitamin C, cholesterol and baldness

At a recent meeting of the Federation of American Societies for Experimental Biology, a doctor with the Human Nutrition Laboratory of the Department of Agriculture had some discomfiting things to say about massive use of vitamin C. Dr. Leslie M. Klevay reported that consuming large amounts of vitamin C decreases the amount of copper that can be absorbed from food. What this does is lower the amount of copper compared to zinc in the body. And in experiments with rats and mice, Dr. Klevay found that a high ratio of zinc to copper leads right into a case of hypercholesterolemia, which in turn, it is believed, is a major factor in coronary heart disease. Cholesterol has also been associated with another common "disorder," though one which is hardly fatal except to one's vanity. According to *New Scientist* (Volume 65, Number 940), Finnish researchers be-

lieve they have traced a complex biochemical path from cholesterol to baldness, which has been considered hereditary.

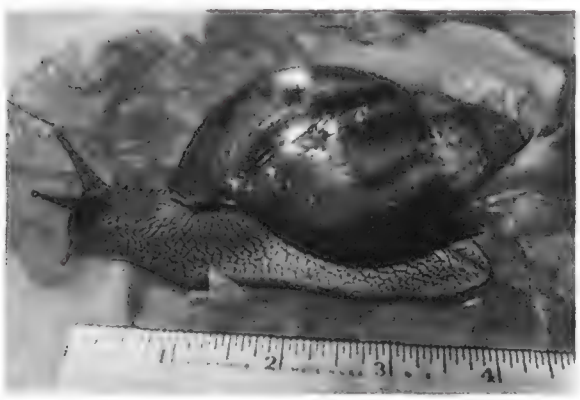
The follicles from which hair grows are alternately active and quiescent, under the influence of certain naturally occurring steroid hormones. As one grows older the quiescent phases lengthen, the hair follicles change their nature and ultimately lose the capacity to grow hair at all.

Now, some cholesterol is formed and stored in the skin and is the "precursor" of all the steroid hormones. Therefore it, and not the particular hormones, may be the culprit when too much of it is present. The Finns have attempted a treatment for pates suffering from incipient baldness, wherein a detergent compound is used over several months. The detergent breaks up the cholesterol and apparently encourages the follicles to remain in the growing phase. The *New Scientist* reporter, Nicholas Valéry, whose brow extends to the back of his head, regards the theory and the treatment with considerable skepticism.

The end of the tunnel

The casualties exceeded 100,000 in a six-year war that ended this spring with an announcement of victory. The war theater was southern Florida, the victors the U.S. Department of Agriculture, and the enemy the giant African snail.

All of the dead were descendants of an original pair that was brought from Hawaii by a child and let go in his grandmother's backyard. Hermaphroditic, with a prodigious reproductive capacity, these pests spread throughout the Miami-Hollywood area, feeding voraciously on shrubs and ornamental plants, and eating the paint off the walls of houses in order to obtain calcium for their shells. They would leave behind trails of slime and



Giant African snail: The war is over.

THE WATER LILY
A LIMITED EDITION PORCELAIN
FROM THE STUDIOS OF EDWARD MARSHALL BOEHM

This superbly realistic work, 8x7x3½" in full color, is priced at only $350 in an edition limited to 750.

This is a rare opportunity to begin modestly a collection of world famous Boehm figurines.

We invite your immediate reservations; you may phone collect.

COLLECTOR'S ORDERS SHIPPED PREPAID. MASTER CHARGE—BANKAMERICARD—AMERICAN EXPRESS.

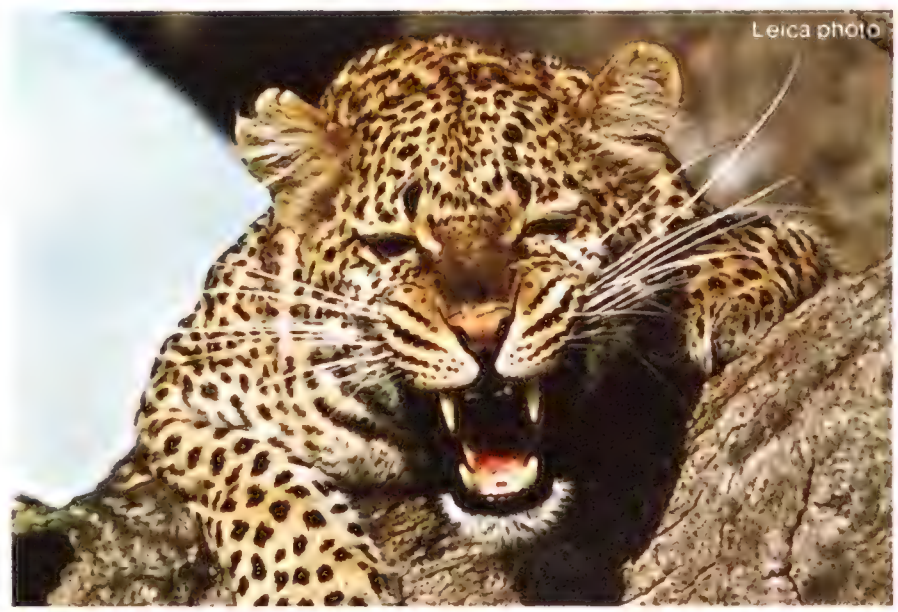
Kruckemeyer and Cohn is honored to announce that Mrs. Helen Boehm will be present June 25th to cut the ribbon to our fabulous new Boehm gallery. Mail and phone inquiries are invited about this special event and our many services to Boehm collectors.

Kruckemeyer and Cohn

Midwest's Largest and Most Beautiful Jewelry Store
309-311 MAIN ST., EVANSVILLE, IND. 47708
Ph. Collect (812) 464-9111

Sabena's East African safaris.

Africa Jet Trek.
Wildlife Royal Safari.
East Africa.
Africa Tent and Beach.



Discover Africa—the last different place—with Sabena. The four tours listed above are merely a sample. We offer safaris from as low as $1,595 (air fare included), 16 to 63 days.

Other Sabena Holiday Abroad tours bring you Egypt, Europe and the Middle East.

For details, see your travel agent or write Sabena Belgian World Airlines AM6, 125 Community Drive, Great Neck, N.Y. 11021.

HOLIDAY ABROAD SABENA

dreadful odors when they died in window air conditioners or from being caught in lawnmowers. Worse, they are known to be an intermediate host to rat lungworm, which is transmissible to humans.

Happily, after battling some eight major infestations in the area, the USDA reports that not a single snail remains alive—one of the few occasions in quite a long time that any U.S. force has been able to declare total victory.

Bird watch

In 1930 the white-tailed kite was considered endangered and nearing extinction in California. This sounds pretty bad until you hear that in 1913 there was only *one* of these birds officially recorded as a resident of the state. Presumably, along with a large number of Americans, at least one other kite must have migrated there in the interval.

In recent years the number of nesting pairs has been about 30, but last season some 70 nesting pairs were noted. Furthermore, the kites have been found to be moving into northern and southern California from their base in the Sacramento region, as well as slipping across the border into Nevada. Why the increase has taken place is not clear, according to the Smithsonian's Center for Short-lived Phenomena (of which, one devoutly hopes, this is not one). The California Fish and Game people in Sacramento have come up with what seems an impeccably logical answer: The increase, they suggest, is connected with "a drastic reduction in the killing of these raptors by humans."

There is yet more good news. The U.S. Fish and Wildlife personnel reported an encouraging ratio of immature bald eagles to adults all the way from Dubuque, Iowa, to Rock Island, Illinois. The World Wildlife Fund reported that a ninth Mauritius kestrel has been discovered (the addition of one to the previous count of eight still leaves this the world's most endangered bird), and that 35 Manchurian cranes and four Japanese crested ibis, previously believed extinct on the mainland, were found near Panmunjom right in the heart of the DMZ in Korea.

In addition, a team from the U.S. Army, the Forest Service, the National Audubon Society and Cornell University was engaged this past spring in reintroducing the peregrine falcon to areas in

- Ancient Africa
- Turner's England
- Surrealist Europe
- Revolutionary Russia

ARTFORUM'S May issue, FREE with a $17.50 trial subscription, $5 off our regular subscription price. Offer good only with this coupon.

Spend the next year exploring other cultures through *their* art and *our* stimulating articles. (Learn more about modern American art and photography, too.)

ARTFORUM
667 Madison Ave., N.Y.C. 10021
please send free issue & enter
$17.50 subscription: 1 year
(10 issues)

Name _____

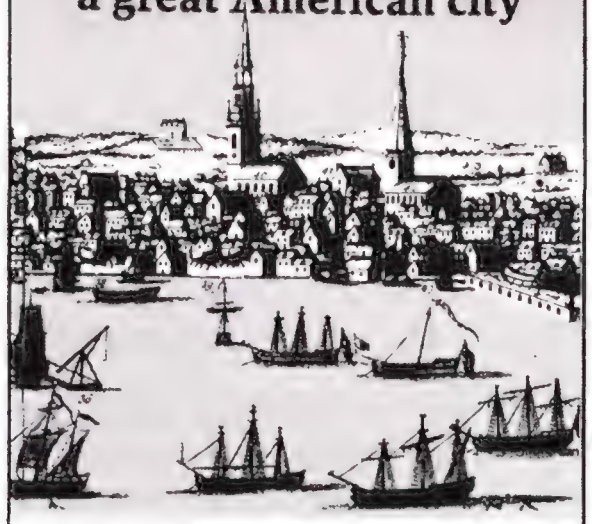
Address _____

City _____

State, Zip _____

☐ Bill me ☐ Check Enclosed

A lavishly illustrated look at the early years of a great American city



Paul Revere's Boston, 1735-1818

Introduction by WALTER MUIR WHITEHILL. Text by the staff of the Museum of Fine Arts, Boston. Published in connection with the major bicentennial exhibition at the Boston Museum, this richly documented, many-sided examination covers 83 years of crucial change. 36 color plates, 300 b & w ills. 300 pp. 10 x 11 ins. Museum of Fine Arts, Boston.

$29.50

At all bookstores

NEW YORK GRAPHIC SOCIETY
Boston, Mass. 02108/A Time Inc. Company

There's Nothing Like It!

Wonderful Sight Light

No Glare . . . No Squint . . .

Up to 5 times the light of conventional lamps . . . yet completely glareless!

- ✶ READING SMALLEST PRINT
- ✶ SEWING BLACK ON BLACK
- ✶ FULLY ADJUSTABLE

Satin brass combined with base and shade in Black, White or Avocado
Traditional $72.50
Contemporary $58.50
Overall Satin Brass
(Contemp. only) $78.00

Buy America's Favorite Reading Lamp
Shipment Postpaid • Check or M.O.

LIGHT-CRAFTERS
Dept. N6
36 Sherwood Place
Greenwich, Conn. 06830

We sell only by mail . . .
write for nearest Sight Light stores.

New England, New York and Chesapeake Bay. Colorado is on the schedule to receive some falcons also. The new immigrants have been raised at Cornell in captivity (for an account of which see a book coming this August, *To Save a Bird in Peril* by David Zimmerman, Coward McCann & Geohegan).

Before one gets a case of ornithological euphoria from such reports, however, one should also be reminded that the National Audubon Society's list of birds headed for trouble has had nine new species added this year: canvasback duck, purple martin, reddish egret, mountain quail, upland plover, common nighthawk, Lewis' woodpecker, hairy woodpecker and lesser goldfinch.

Inventions

The Department of Commerce has announced that some 3,500 devices invented by federal employees will become available for commercial licensing in the next nine or ten months, and if you want to find out what your ingenious public servants have been up to in recent years, subscribe to the Department's weekly bulletin, *Government Inventions for Licensing*. Certain common notions about clock-watching bureaucrats will no doubt be confirmed by one example: A National Aeronautics and Space Administration employee has given birth to "an apparatus for manually adjusting large wall-mounted clocks while the operator stands on the floor. . . . The device consists of a long-handled tool which slips over the reset knob of the clock. . . ."

Inspired by an article on the aerodynamics of golf balls, two inventors from California have created a golf ball which resists hooking and slicing even when struck by an abject duffer. The ball has dimples around the equator, smooth polar regions and a thicker skin at the poles. Teed up so it can be struck on one pole, the ball develops lift and also a gyroscope effect which resists sideways travel. It is called the Happy Non Hooker.

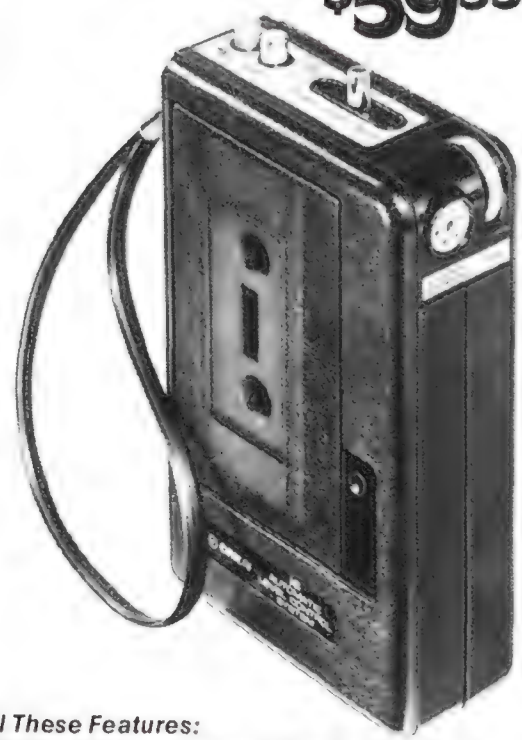
The Let-Them-Eat-Cake Award for solar energy apparatus must go to the firm which has designed Catel Solar Circles—large polyethylene circles which one floats in one's swimming pool. They increase the transfer of the sun's heat into the water and retard its loss to the atmosphere in the nighttime.

JAMES K. PAGE JR.

Record Yourself Anywhere!

A new mini-cassette Tape Recorder and Dictation Unit

Now Only $59.95



The new "Orion" is an exciting palm-sized "memory" which is excellent for recording your creative ideas or thoughts, dictation (in or out of the office), business meetings, classroom lectures, interviews, phone calls, voices of loved ones. It's also great for playing pre-recorded tapes of your favorite music. The "Orion" is a self-contained professional unit to record or play back at the touch of a switch. There are no external speakers, cords, or microphones to hassle with. Time-Saving, Space Age Electronics from Contemporary Marketing.

Call Toll Free: 800-323-2408
(Illinois call 312-595-0461)

All These Features:
• Tapes Anything—Anywhere • "One-Touch" Controls For Easy One-Hand Operation • Built-In Condenser Mike • Automatic Recording Level Control System • Advanced Solid-State Circuitry (2 Integrated Circuits, 2 Transistors, 1 Diode) • Built-In 2¼" Dynamic Speaker • Uses Standard Cassette (Included) • Easy-Load Pop-Up Cassette Door • Double Track Tape System • 1⅞ ips Tape Speed • DC Erasing System • Rewind Time—100 seconds or less • Wow & Flutter—less than 0.35% • Output Power—Maximum 500 MW or 1 KHz • Frequency Response—250 to 6000 Hz • Records Up to 120 Minutes (C-120 Tape) • Batteries, Earphones, Carrying Case • FULL 1 YEAR, NO-HASSLE WARRANTY

Try One for 2 Weeks—No Obligation!

Please send me _____ "Orion" Mini-Cassette Tape Recorder(s) at $59.95 plus $3.00 (shipping and insurance) each. If not satisfied I can return it within two weeks for an IMMEDIATE refund.

Also send special AC Adaptor/Convertor @ $4.95 ea.

Instead send me a Rechargeable model (by SHARP) @ $79.95 plus $3.00 shipping.

Check or Money Order Enclosed (Illinois residents add 5% sales tax).

Charge My Credit Card Checked Below:

☐ American Express ☐ BankAmericard
☐ Master Charge ☐ Diners Club
☐ Carte Blanche

Credit Card # Exp. Date

Master Charge Bank # (4 Digits)

Name

Address

City State Zip

Signature

SMN-6/75

Contemporary Marketing, Inc.
607A Country Club Drive, Bensenville, Ill. 60106
Call Toll Free: 800-323-2408
Illinois call: 312-595-0461

Sabena's Holiday Abroad catalog.

Europe.
East Europe.
North Africa.
Middle East.
Africa.

Sabena Belgian World Airlines HM6,
125 Community Drive, Great Neck, N.Y. 11021.

Name

Address

City State Zip

Telephone

My travel agent

Location

Sabena's 1975 "Holiday Abroad"

Here is a full range of tours from popular priced to prestigious, conducted by specially selected tour operators

The Holiday Abroad catalog introduces you to Europe, Africa and Asia in 104 pages of travel adventures

And when you fly Sabena's scheduled jets to or from Brussels, you get Belgium's Bonus Days worth $260 in free treats

HOLIDAY ABROAD SABENA

THE FRANKLIN MINT PROUDLY ANNOUNCES

WILDLIFE OF NORTH AMERICA

LIMITED EDITION SCULPTURE IN SOLID PEWTER

THE BIGHORN SHEEP

A collection of ten original sculptures portraying magnificent animals of the North American wilderness

Issued in strictly limited edition.
Available by advance subscription only.
Subscription rolls close June 20, 1975.

WILDLIFE OF NORTH AMERICA is a unique collection of original pewter sculptures portraying the most beautiful and fascinating animals that roam the mountains, forests and shores of North America.

Each sculpture will capture in exceptional detail the beauty, strength and character of the animal portrayed. And each of these fine works of art will depict the animal just as it appears in nature. In repose. In pursuit. In a single moment in time.

The ten sculptures in this collection will be crafted in solid pewter—a warm, rich metal which enhances every fine detail of the artist's work.

These superb pewter figures will be produced in *a single limited edition,* and subscriptions for this edition are being accepted only at this time. The collection will be issued by The Franklin Mint, which is renowned throughout the world for the quality of its original collector's items.

Lifelike portrayals

The stealthy *Mountain Lion* will be the first sculpture in the collection. This powerful animal is shown—balanced on one foot—as it jumps with remarkable agility from a ledge above. Because of its strength and size, the Mountain Lion is greatly feared by other animals—yet is itself terrified in the presence of man.

The second sculpture will be the *Whitetailed Deer*—graceful, swift, with extremely keen senses. The deer runs and leaps over a fallen log, perhaps in pursuit of a young doe.

Next in the collection is the *Grizzly Bear,* formidable giant of the woodlands. The Grizzly can fell a steer weighing half a ton, or quite easily catch a small fish in its massive paw.

The sure-footed *Mountain Goat* confidently scales a ridge no other animal would dare attempt. And atop a mountain peak, a magnificent *Bighorn Sheep* stands silhouetted against the horizon.

On a distant plain, the handsome *American Elk* heads for the timber at full speed—its head held proud and high. And in the darkness of night, a *Timber Wolf* utters its spine-tingling wail.

Farther north, the *Polar Bear* has emerged from the frigid sea to rest on an ice floe. And the *Sea Lion,* startled by an unfamiliar sound, prepares to dive into the water for safety.

The final figure in the collection is the *Pronghorn Antelope.* This beautiful animal has characteristics similar to the giraffe, the billy goat and the deer—yet is not related to *any* other animal. It is the sole living remnant of an ancient animal family that dates back 20 million years.

Ten of the most striking animals of the North American wilderness. Ten creatures that embody the freedom and spirit of nature. A collection of sculptural art that offers something new and fresh each time it is viewed.

Sculptured in realistic detail

Each sculpture will be completely faithful to the animal it portrays. The expression

THE WHITE-TAILED DEER

THE MOUNTAIN LION

Sculptures shown slightly smaller than actual size.

on the face of the *Timber Wolf*. The movement of the body of the *White-tailed Deer*. The sweep of the *Mountain Lion's* tail. Even the sharp teeth of the *Grizzly Bear* can be readily seen. And you can actually count the points on the elk's antlers.

The sculptor who is creating this collection is Ralph Berg. Born and raised in Montana, Berg has devoted his entire life to learning about the animals of the North American wilderness. Now at his studio in Great Falls, he devotes his great talent to creating beautiful lifelike sculptures of the animals he has come to know so well. Until now, the works of Ralph Berg have been owned exclusively by a limited group of individual collectors who have purchased his sculptures for their own private collections.

Each of the ten figures in the *Wildlife of North America* collection will stand on its own sculptured base. The base will bear the title of the work, the distinctive signature mark of the sculptor and the coveted mintmark of The Franklin Mint.

A strictly limited edition

Wildlife of North America will be issued in only one edition. The total edition will be limited to the exact number of orders postmarked by the subscription deadline of June 20, 1975. When each subscriber has received his collection, the ten master sculptures will be destroyed and these limited edition works will never be produced again.

Convenient acquisition plan

The sculptures will be completed and sent to subscribers at the rate of one every other month, beginning in July 1975. The original issue price for each sculpture is $60, payable in two equal installments of $30 per month.

While limited edition sculptures of this quality are generally priced much higher when sold individually, these works of art can be acquired at only $60 each because they are offered *only* as a complete collection—and *only* by advance subscription.

Together, these ten original wildlife sculptures will form a collection that will be greatly admired by all who appreciate fine things. For they add a new dimension to the art of animal sculpture—an art that has captivated man's imagination since prehistoric times.

Subscription deadline: June 20, 1975

This is *the only time* that applications will be accepted for this important sculpture collection. To enter your subscription, please mail the Advance Subscription Application at right by June 20, 1975.

© 1975 FM

ADVANCE SUBSCRIPTION APPLICATION

WILDLIFE OF NORTH AMERICA

The Franklin Mint
Franklin Center, Pennsylvania 19091

Please accept my subscription for *Wildlife of North America*, consisting of ten original sculptures in fine pewter at $60.* each. These sculptures will be sent to me at the rate of one every other month, beginning in July 1975, and I agree to pay for each pewter sculpture in two equal monthly installments of $30.* each.

☐ I enclose $30.* as my first installment.

**Plus my state sales tax.*

Mr.
Mrs.
Miss _____
PLEASE PRINT CLEARLY

Address _____

City _____

State, Zip _____

Signature _____

Valid only if postmarked by June 20, 1975
Limit: One collection per subscriber

By Maureen Green

New life for famous old stained glass in Canterbury Cathedral

The greatest collection of medieval windows in England is in danger, and restoration has begun—although not without controversy

In its time, Canterbury Cathedral has seen plenty of disasters: Fires, wars and a murderous monarch whose henchmen struck down the archbishop, Thomas à Becket, within its very walls; in later years there was another royal predator, Henry VIII, who stripped the church of its martyr's shrine and pocketed the gold and jewels that encrusted it. In Cromwell's day, one Puritan vandal wrecked a 15th-century window depicting Archbishop Becket, and later boasted of himself "with a whole pike in his hand rattling down proud Becket's glassy bones."

Despite these onslaughts, a wonderful amount of the medieval glory still remained. But now Canterbury Cathedral is faced with its most serious enemy yet: time. The air and rain, sun and wind of nearly 800 summers and winters have crumbled the stone and pockmarked the ancient glass until the very existence of these monuments is threatened. Like many another priceless relic of the Middle Ages, Canterbury Cathedral is forced to name a figure for its survival.

On this occasion, the townspeople cannot rescue the cathedral on their own; they are looking to the whole international Anglican community for help. The Dean of Canterbury has launched an appeal for $8.5 million to rescue the stained glass, repair the stonework and insure the continuity of its musical foundation, which supports a professional choir.

What wind and water and changes of temperature can do to stone over the long centuries is visible to any visitor who approaches the cathedral, like millions of pilgrims before him, through Christ Church gate and walks toward the main porch. The whole southern side of the building, gleaming tawny yellow in the sun, can be seen with the naked eye to be falling into some disarray (p. 30). Masonry on the southwest tower and along the south side of the nave is in an obvious state of disintegration; the southwest gable appears to be slipping and about to buckle the glass.

The picturesque beauty of the decay does not disguise the fact that the fabric of the building is quite simply wearing out. Cracks need to be repaired, large sections need to be replaced, arcades and niches, parapets and pinnacles must be painstakingly resculpted. Work already has begun on this most basic task of holding the cathedral together. Crumbling areas of stone are being cut away, masons are chipping and carving the replacements. The immensity of the task can be gauged from the fact that the Dean of Canterbury Cathedral has signed a 50-year contract for the import of stone from Poitiers in France, the material closest in color and texture to the original Caen stone.

It is less easy, however, for the visitor or worshiper to detect what has happened to the stained glass, the greatest single treasure of Canterbury. Careful scrutiny can show that the name of a famous figure in one of the early panels, an Adam or a Becket, can no longer be read. But the accumulative impact of the many patterns and brilliant colors of this most concentrated art form gives the visitor the impression that all is well. The impression, however, is false. Although it was already recognized that the glass needed attention,

Clear panes temporarily replace stained glass in the southwest transept window. One 12th-century genealogical panel, "Judah," is still in place.

Photographs by Farrell Grehan

In the late afternoon light, Canterbury Cathedral shows the ravages of time. Scaffolding at the right surrounds the southwest transept, where both the masonry and the window are being restored.

the real state of the windows was ascertained when Frederick Cole, an eminent English stained-glass designer, and Madeline Caviness, an American art historian, climbed catwalks and scaffolding in 1971 to have a closer look. "What we saw was dire," says Cole.

The glass, which has weathered badly, was worn thin almost all over, cracked and broken in places, and just about everywhere on its external surface it was pitted and corroded. Cole and Caviness warned Canterbury that their glass was very near to the end of its life. After receiving their report, Canterbury invited a body of international scholars and conservationists, known as the Corpus Vitrearum Medii Aevi, dedicated to the study and preservation of the stained glass of Europe, to the cathedral. These scholars were equally alarmed at what they saw.

The scholars' concern for Canterbury was not just because it has more 12th-century stained glass than all other English cathedrals put together, but that the theme of this glass makes it unique, not only in Europe but in Christendom. Explaining the special fascination of the windows, Canon Derek Ingram Hill, the acknowledged expert on their iconography, recounts: "Soon after Becket's murder, the monks of Canterbury devised this enormous scheme of the genealogy of Christ to be carried out in the windows all around the choir; there were originally 88 great figures, and now we have 44 left."

Part of the Byzantine tradition of the Christian church was to chant the genealogy of Christ, the list of his human forebears, in the Christmas service. "We know," says Canon Ingram Hill, "that Thomas chanted this genealogy at Christmas 1170, four days before his murder. It was one of his last acts as archbishop. Perhaps for that reason, the monks thought that this should be the theme of the glass they commissioned in 1175, such a short time afterwards. It would have recalled one of their last memories of him."

Maureen Green is a free-lance writer who lives in London. She wrote about the master art sleuth, David Carritt, SMITHSONIAN, *December 1973.*

No other church ever attempted to portray all the ancestors of Christ in glass. At Canterbury the ambitious window scheme and the magnificent new cathedral walls rising round the monks were not only inspired by Becket but financed by well-wishers and pilgrims to the scene of the newly canonized saint's murder. As the fame of Thomas à Becket, their saint and martyr, spread and stories of the miraculous cures wrought on pilgrims to Canterbury grew, the monks added further windows in 1220 to the Trinity Chapel. These new windows depicted scenes of Becket's life and death, of his miracles and of the pilgrims who came to Canterbury.

"These are the great picture books of early medieval life," says Canon Ingram Hill. To Geoffrey Chaucer, who took his package tour 200 years later to the shrine of "the holy blissful martyr," and established the story of the pilgrims forever in *The Canterbury Tales,* these windows would already have seemed an ancient monument to be admired and venerated.

Today, however, those same windows have the doubtful distinction of being in just about the worst shape of any in Europe. Once this appalling fact had been recognized, a certain amount of scholarly panic set in. Explanations were sought, and many have been found. The city of Canterbury is more vulnerable than some (Chartres, for instance), since it is encircled by modern highways and diesel trucks pouring out fumes. Some observers, including Frederick Cole, think that this modern pollution has added to the problems of the windows. Others find no evidence to support this theory. Experts have also wondered if the fault may have much earlier origins, with the French glassmakers of the 12th and 13th centuries. As one of them pointed out, there was no "quality control" in those days.

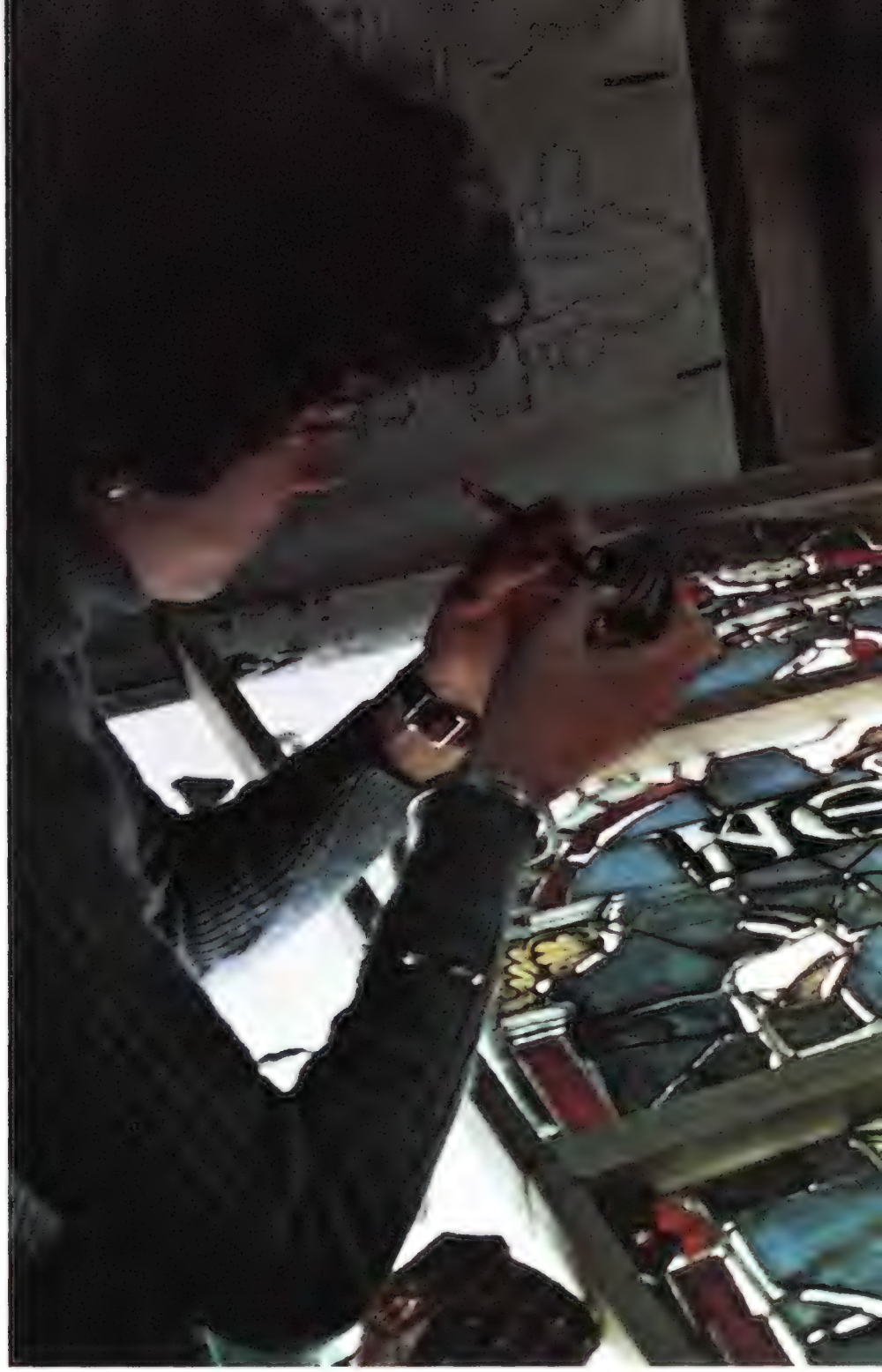
Into the crypt for safety

The deterioration may in fact have been aggravated during the last war. In the autumn of 1939, when the whole of England lived in dread of war with Germany, the clergy in the space of two or three weeks removed every medieval panel from the windows of the cathedral and stored them in the crypt for safekeeping. Their wisdom was proved when the Victorian panels which remained in place were later shattered by bombs. But, in saving the medieval glass from bombardment, they exposed it to moisture. The Norman crypt is strong but somewhat damp. In a letter to the *Kentish Gazette,* Professor Roy Newton of York University recently wrote: "It is my present theory that it was the wartime storage of the glass in high humidity in St. Gabriel's Chapel which was responsible for what is happening now." Other experts feel, however, that the problem began much earlier.

Head of Neri, one of Christ's ancestors, from the genealogical panels, shows condition of the old glass. Inside (above) is dirty and faded; outside (below) is encrusted with the products of corrosion.

New life for Canterbury's old glass

Glass awaiting attention—and some of it may wait for years—is stored in controlled conditions.



The 12th-century Neri panel, after its leads were removed, has been reassembled on an illuminated

There could be no disagreement about the next step, however. Immediate action was needed to halt the decay. The cathedral clergy appointed Frederick Cole to become director of stained-glass restoration, with a seven-year program to tackle the most seriously ravaged glass first. He is backed up by an advisory committee which includes such international experts as Dr. Robert H. Brill of the Corning Museum of Glass in Corning, New York, and Professor Roy Newton. The methods of all restoration arouse controversy, and Canterbury's glass program is no exception, but after much experiment Frederick Cole worked out a technique that sounds drastic but that he believes will be effective, and assure the continued existence of the glass for future generations. With a team of assistants, Cole has set up a workshop in the cathedral precincts, where they are now beginning to provide the ancient glass with much-needed first aid.

tray. Anne Marsh is bonding two pieces of glass,
while Andrew Small is restoring pigment with a brush.

To begin the vast program, which will eventually involve 6,700 square feet of glass, Frederick Cole chose two of the genealogy panels from the south choir clerestory, solemn figures of prophets regarded as ancestors of Christ, named Resa and Neri. Once the panels were removed from the iron embrasures, and carefully lowered to the cathedral floor, they were taken to the studio where Cole's team gently brushed off the dust of yesterday and prepared to treat the dirt of centuries. Before any work begins on the glass, craftsmen take a rubbing over the leads and indicate on this outline of the design details of any broken or shattered areas; the panel is then photographed in color. The first stage of cleaning involves soaking the panel in a bath of deionized water. When the encrusted dirt begins to loosen, the panel is dismantled and the pieces of glass taken out of their leads (or cames) and assembled on a glass tray where the lead lines have been painted in with black brushstrokes. The lead is melted down and recycled to be used again when the panel is finally restored. The glass panel lives now on its tray (above), and is filed away each night with its rubbing in a strong room protected by burglar alarms and humidity and temperature controls.

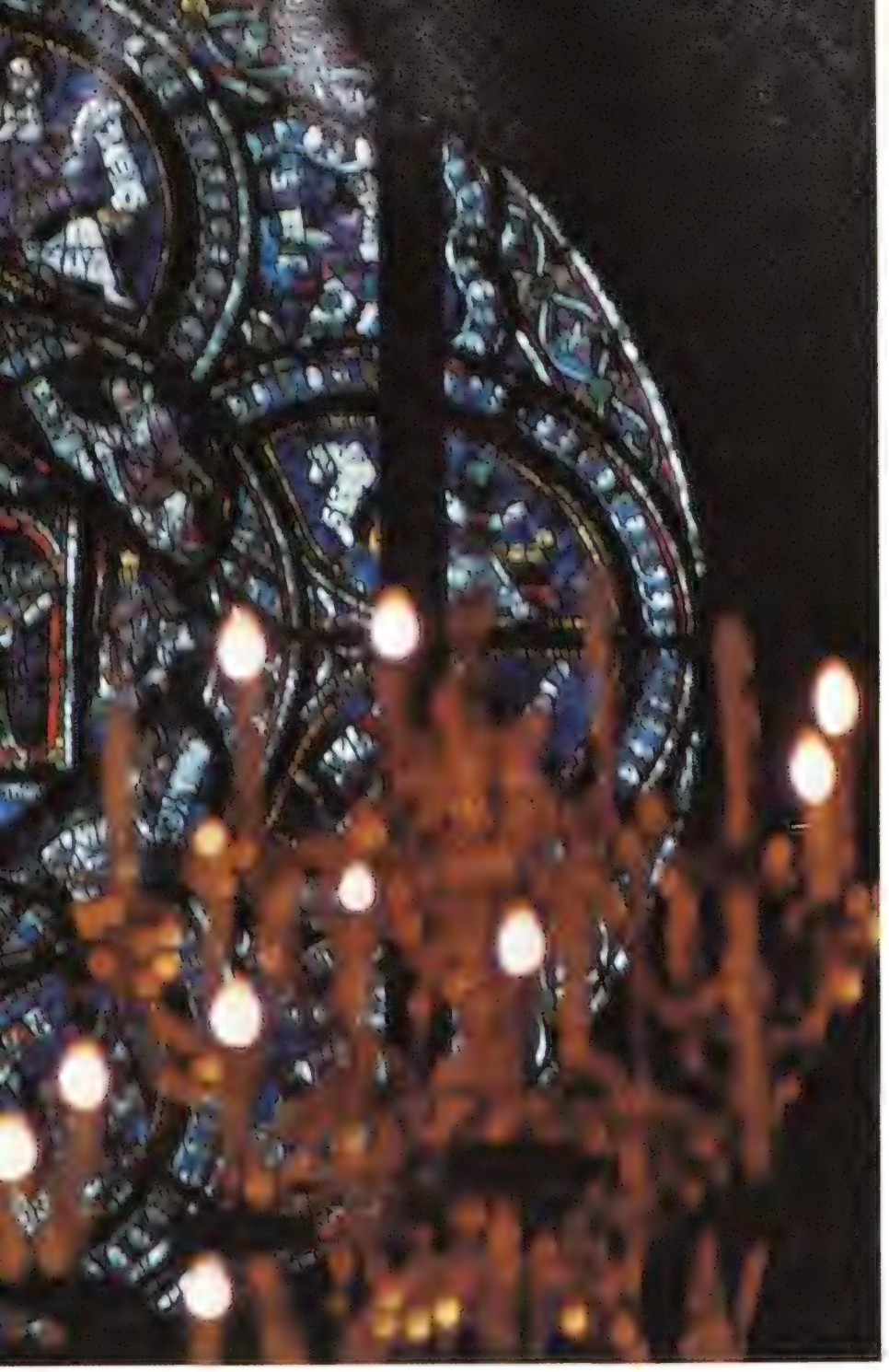
Now comes the task of examining each small piece of glass, thoroughly cleaning and repairing cracks and breaks. Each piece has a double problem, its exterior and its interior surface; most are corroded on the outside and encrusted with products of the action of sulfur dioxide and carbon dioxide. The exterior resembles a miniaturized version of the moon's surface. The interior is coated with grime. The glass is first stacked in what looks like a miniature dishwasher, an ultrasonic device, where it spends six minutes immersed in a solution of ammonia and deionized water. This removes loosely adhering dirt and weathering

products. Assistants then tackle the outside surface. The remaining corrosion products are removed with an airbrasive device which uses glass powder projected under pressure. This can be viewed as an extremely gentle form of sandblasting, using a soft material as an abrasive. It leaves this surface clearly pitted but clean. An even more delicate approach is taken with the interior surface, since the craftsmen have to be careful not to disturb any pigment in the painted decoration. A dilute solution of epoxy resin and acetone is run along the edge of each painted line. This solution seeps between pigment and glass, forming a strong bond. The cleaning is done with a high-speed fiber glass brush. Both surfaces are now clean and the paint consolidated. But there may still be problems.

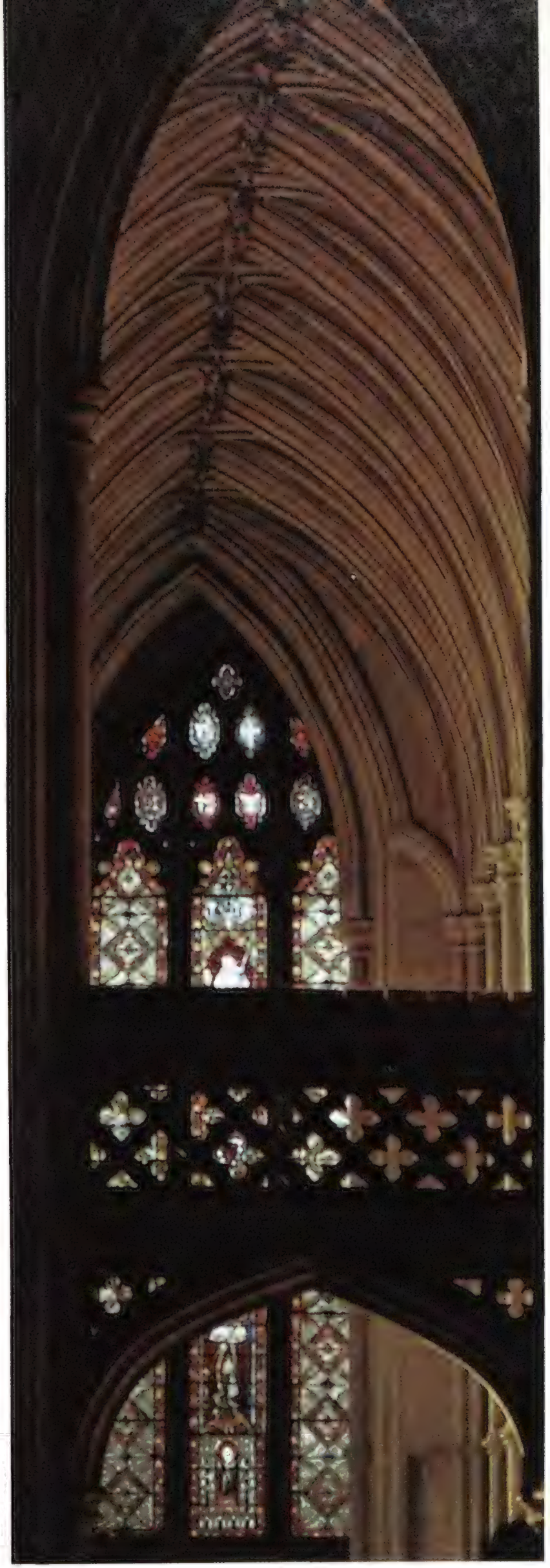
Breaks receive edge-to-edge mending and gaps are filled. Finally, to restore translucence to the glass, Frederick Cole has developed a delicate and carefully controlled technique of acid polishing. "It is a very precise process although it makes use of a dangerous acid, hydrofluoric acid," says Cole, "but with it we can restore glass from a dull surface to a high polish."

Even so, the glass is not yet in a fit state to be replaced, just as it is, to face the elements once more. In many sections of the design, letters and faces and colors are missing. Frederick Cole has taken on the dual problems of support for the glass and making necessary additions to the design to help make the windows intelligible once more, with a complete system of backing glass. "In the Resa panel," says Cole, "the letters 'SA' are missing. We can no longer just replace that glass with a modern equivalent. We must not fake. Nor can we refire a design onto glass of that age. But it is important to restore the iconography. So we take a clear sheet of thin modern glass, and cut it to the exact shape of each piece of the ancient glass." A plaster mold is made of the pitted surfaces of the old glass.

Behind a chandelier, great rose window of northeast transept glows with 12th-century glass.



This glass, with prophets Jonah and Amos, is a Victorian reproduction—and hence in no danger.



Window in the south aisle of the nave, behind the Gothic stonework, consists of old and new glass.

The 13th-century windows of Trinity Chapel are among the greatest medieval treasures of England. Here, the martyred St. Thomas Becket visits his old friend, King Louis VII of France, in a dream.

The missing pattern is painted on the modern glass, which is then fired in the mold and assumes its contours. Each tiny segment of ancient glass is provided with such a piece of modern backing glass. Finally, the old corroded glass and the new protective glass are sealed together at the edges with a strong, pliable mastic. To test it for airtightness, some small sections of bonded glass have been exposed on the roof of the studio for some months, to see if rain or wind can penetrate. So far, all is well. The double-strength glass is finally releaded into its original position. The panel, now protected on its exterior surface, is ready to go back into the cathedral wall.

Such is the passion that Canterbury arouses that Cole has to defend every stage of his process. International experts, and the British public, debate every step. One English metallurgist wrote to him that the old medieval lead should not be used again, since it would be devitalized and would lack strength. But when Cole sent samples to the Lead Development Association for testing, they pronounced themselves very satisfied with its quality. Others have become fearful that the double layer of glass that is being replaced into the leads will prove too heavy, but Cole insists that there is no significant increase in weight.

Above all, Cole answers critics in the perpetual debate over restoration methods by pointing out that the whole operation can be undone at some future date if expert opinion shifts and better techniques are invented. "Earlier restoration now often seems to us reprehensible and technically inept," admits Cole. "So we strenuously avoid doing anything that is not reversible." However, it cannot be known for sure how the restored and protected panels will behave in the future. While restoration starts on other windows, Resa and Neri will now go back into their high positions in the choir, so that clergy and congregation can keep their eye on them.

Each step on the way is extraordinarily costly. Three craftsmen took six months to complete the two main panels of the Resa figure, though they will pick up speed later on. But the restoration work obviously stretches years ahead.

The fame of Canterbury still beckons many pilgrims in the present century, but they are attracted less by the supernatural powers of its martyr than by the extraordinary solace offered by the beauty of its stone and glass. For our day, this inspires enough awe. As Canon Ingram Hill says, "the miracle for us is that these windows are here at all."

Portrait of Becket, in late 12th-century glass, may have been made by someone who had seen him.

Lions normally can drive hyenas off their kill, but this young male found that the best

By Cynthia Moss

That ugly hyena turns out to be a superb predator

A pack watching lions feast on a kill probably includes the aggressors; it is the big cats who are the scavengers

The hyena has been vastly misunderstood and unfairly subjected to myths and beliefs, not to mention the fact that it is actively loathed. With its huge head and jaws, its sloping back, ungainly gait and overall scruffy appearance, the hyena is not easy to admire. Add to its looks its rather revolting eating habits, and you have an animal that has become a symbol of unattractive behavior. By no stretch of the imagination does the hyena fit the picture of a stealthy hunter—a sleek, graceful killing machine like the lion, leopard or cheetah—and yet the hyena is an impressive animal functionally. Its physique is admirably suited for scavenging from any size of carcass. With its massive head and jaws and special bone-crushing teeth, it can break all but the biggest elephant bones. Its strong forequarters enable it to carry away large portions of meat and bone. Its senses—excellent eyesight and sense of smell, acute hearing and a completely eclectic taste—

Article: copyright 1975 by Cynthia Moss

he could do was share. Hunting hyenas are very noisy and attract lions from more than a mile away.

also aid in the scavenging life. It will eat just about anything from the rankest carrion to, reportedly, aluminum pots and pans (as many campers have testified). Needless to say, the hyena has a rather remarkable digestive system.

What is surprising about the hyena is that its cumbersome "scavenger's body" can also kill rather efficiently. The hyena was thought to be a slow, clumsy animal that could easily be outpaced by adult herbivores, and so it chose only slow, sick and old animals. After watching more than 200 kills, Dr. Hans Kruuk, who studied hyena predation and social behavior in Tanzania's Serengeti National Park and Ngorongoro Crater for more than three years, and from whom most of my information comes, was able to show us just how wrong this assumption is. The hyena is a clever and adaptable hunter with the stamina to chase an animal for three miles while reaching speeds of up to 40 miles per hour.

The reason why the hyena has not heretofore been known in East Africa as a hunter is simple: Hyenas were rarely, and certainly never intensively, observed at night. Time after time, Kruuk would be out all night with his hyenas, would watch them make a kill and then see a pride of lions take over the carcass. By daybreak the scene would be as follows: Three or four lions are slowly eating the remains of a zebra; hyenas are circling around, keeping a discreet distance from the lions; a tourist bus drives up and someone says, "Look at those disgusting hyenas waiting to scavenge from those noble lions." In Ngorongoro, at least, Kruuk discovered that lions rarely make any kills of

The author edits the African Wildlife Leadership Foundation's magazine; this article has been adapted from her forthcoming book on African mammals.

Photographs by Hans Kruuk

their own, relying almost exclusively on the hyenas to provide for their meals!

Soon after he arrived in Ngorongoro, Kruuk and his wife began following the hyenas on moonlit nights, and they discovered a Jekyll and Hyde transformation in the hyenas between day and night. At night hyenas become aggressive and successful killers of large animals—not just the young, sick and lame, but healthy adults. They are able to kill both young and adult wildebeests, zebras and Thomson's gazelles, and, less frequently, they kill other animals such as eland, buffalo, waterbuck and kongoni. This is not by any means to suggest that the hyena is not a scavenger. Given a lovely ripe carcass, any hyena will feed from it with great relish. The hyena above all is an opportunist, but if there are no carcasses to feed on, he will not starve to death for lack of hunting skills.

Hyenas hunt regularly in the Serengeti and Ngorongoro. In both areas they hunt more than they scavenge, and in Ngorongoro they are almost exclusively hunters. Hyenas were observed at 622 carcasses in Serengeti, and of these 68 percent were killed by the hyenas; of 297 carcasses in Ngorongoro, 93 percent of the animals were killed by hyenas. These figures show that the hyena is as much a hunter as any of the other large carnivores, all of whom also scavenge to some extent (with the possible exception of the timid cheetah). The lions in Ngorongoro turn out to have far more of a scavenging nature than the hyenas there.

Out of 61 observations in Ngorongoro, where both lions and hyenas fed from the same carcass, 84 percent of the corpses had been killed or first found by hyenas and only 6 percent had been killed by lions (the remaining 10 percent being uncertain cases). Even in the Serengeti, out of 129 observations where both lions and hyenas fed, 53 percent of the carcasses had been killed by hyenas and 33 percent by lions (with the remaining 14 percent uncertain).

As lions are almost always able to appropriate a kill from hyenas, they are a serious competition to the hyenas—which as a result have to kill more often. In Ngorongoro, where lions rarely kill for themselves, an unusual situation arises in which the hyenas are responsible for the prey selection for both their own diet and that of the lions.

The great majority of all the hyena kills which

Hyenas do almost all their hunting at night. The packs hunt zebras (see eyes in background) and take turns trying to get past the stallion to the mares and foals. When they do, the stallion gives up.

Despite the efforts of its mother, a hyena moves in on a rhino calf. Dr. Kruuk observes that hyenas eat anything from insects to large animals, not to mention snakes and automobile taillights.

Kruuk observed were of medium-sized ungulates, although hyenas will kill and eat a wide range of animals—as Kruuk says, "any size between a termite and a buffalo." The diet list he has compiled includes porcupines, springhares, puff adders and other hyenas. Other observers have reported hyenas eating fish, humans, black rhinos, hippo calves and young elephants.

Since wildebeest, zebra and Thomson's gazelle form the bulk of the hyena's diet, Kruuk concentrated on the hyena's methods of hunting these animals. The hyena adjusts its hunting methods to the different antipredator devices used by its prey. One cannot but gain respect for it once one becomes aware of its ingenuity. Each animal is hunted differently.

Adult wildebeests are usually hunted at night by single hyenas or, at most, by three. The hyena heads for the wildebeest herd and often is able to approach within 10 to 20 yards of the nearest animals before they react by lifting their heads. Once near the herd, the hyena begins a series of testings, either by dashing into the midst of the herd or chasing an individual at random. This may happen a number of times, the hyena moving from group to group, chasing and watching, until a victim is selected and chased in earnest.

It is difficult to determine the factors responsible for the selection. The animals picked generally looked healthy and fit, and Kruuk could not see anything in a chosen animal's demeanor or gait that made it in any way different from others. As he says, "It is obvious that hyenas are able to detect differences in performance among individual wildebeests that I cannot see," and compares their ability to that of a veteran horse dealer. Hyenas may be attracted to small changes in an animal's behavior or appearance. One scientist working in Ngorongoro captured a number of wildebeests, painted their horns white and then released them. Within a few months almost all of these wildebeests had been killed. Wildebeests that were tranquilized and then released when they appeared to be fully recovered were also chased and killed by hyenas.

Once the wildebeest is selected by an individual hyena and the chase begins, other hyenas often join in. As they get closer, the hyenas snap at the legs and loins of the wildebeest. On a successful chase, these bites will finally bring the animal to a halt. (Sometimes a wildebeest will run for water, plunging into a lake or stream, but this does not seem to deter the hyenas at all. In seven cases observed by Kruuk, the wildebeest

A wildebeest that tried to escape by running into water is eaten where it was brought down.

ran into water and in each case it was killed either by the hyenas or by drowning, so this habit does not seem to have much survival value.)

When the wildebeest is stopped, it is invariably killed even if only one hyena is there. The wildebeest makes a few half-hearted attempts to protect itself with its horns, but the hyenas largely ignore these efforts. The wildebeest is literally killed by being eaten. There is no killing bite. The hyenas simply bite and tear at the animal until it is disemboweled. It has been suggested that the wildebeest is in a state of shock and not in agony. To the human observer, however, it is ghastly to listen to (they make a loud, moaning cry) and to watch what seems an excruciatingly long, slow death. The wildebeest is dead within one to 13 minutes after being brought to a stop. The more hyenas involved, the more quickly the animal dies.

Counting only those hunts where a chase was begun, not "tryouts," Kruuk witnessed 49 chases of which 44 percent were successful. In the cases where the wildebeest got away, it was usually because it outran the hyena, ran into the midst of a herd, or the predator stopped the pursuit at the boundary of another hyena clan's territory.

Wildebeest calves are hunted extensively at the time of the year when females drop their calves—in January and February. Those few weeks must be a kind of hyena heaven, for then all the hyenas, even the juveniles, are full and fat. It has been suggested that hyenas hunt for lost calves that have been separated from their mothers, and they are condemned for attacking these motherless calves. In fact, in 108 hunts of calves witnessed by Kruuk, only one was a lost calf. This is not to say that hunting calves with mothers is braver or fairer; it is simply absurd to criticize hyenas for any of their hunting methods.

In all the calf chases observed by Kruuk, however, hyenas were successful in 32 percent of the cases. In the unsuccessful attempts, the wildebeest calves escaped most often by outrunning the hyenas, and secondly by the mother's defense. But the single most important antipredator effect for wildebeest calves is the synchronization of calving into the brief three-week period when 80 percent of the calves are born. With the combination of sheer numbers and the crowding into breeding herds, the hyenas are simply unable to take every calf. Even so, the Ngorongoro hyenas take a a huge toll of the calves—about three-quarters of the number born each year. However, if they were born throughout the year, or over a longer calving period, the hyenas and other predators would probably get nearly all of them.

Zebras are hunted by a different method. The hyenas form packs of up to 30 animals to overcome the particular problems of killing a zebra living in a close-knit family group. The hyenas deliberately set out to hunt for zebras to the exclusion of all other prey, and this seems to have little relevance to the availability of zebras in the hunting range at the time. Before a zebra hunt, clan members meet at the den or often at the special meeting place Kruuk calls the "club." There the hyenas meet and perform what seem like endless greeting ceremonies. There are usually more males present than females, but one or two of the older females of the clan always lead the pack. Once the socializing is finished, the pack (its mean size being about 11 members) moves off with tails up in the alert posture. At this point an observer can readily recognize the hyenas' intention to hunt zebras. There may be no zebras in sight, but the pack will ignore large herds of wildebeests until they find a group of zebras.

When the zebra herds are located, the hyenas slowly walk toward them and are able to get surprisingly close before the zebras react. Hyenas do not test zebras as they do wildebeests. Usually the hyenas move slowly from group to group, looking for something that attracts them before beginning a chase. The chase may be initiated by the zebras fleeing when the hyenas get too close, or by the hyenas running at them. Even before a chase begins the family stallion may threaten the hyenas; this initial threat is often enough to deter the hyenas, who may then move on to another group.

If they are not deterred and the chase begins in earnest, the zebras bunch up and move away at a slow pace, sometimes not even running. The stallion keeps between his group and the hyenas who follow in a semicircle behind. Each hyena then acts independently, trying to get past the stallion which lashes out at them with his front hooves and also tries to bite them. He may pursue a hyena for more than 100 yards. In a successful hunt, one or more hyenas manage to outflank the stallion and reach the mares and foals. If one of the zebras is in poorer condition than the others or is slowed down by bites from the hyenas and falls back, the whole pack immediately converges on it. At that point the stallion does not make an effort to defend the individual, although a mother will defend her foal. Like the wildebeest, the zebra does not try very hard to defend itself and it is also killed by disembowelment. As the number of hyenas in a pack hunting a zebra is large, the animal's death is usually quick.

In 47 chases of zebras, hyenas were successful 34 percent of the time, and of these kills 31 percent were foals under a year old. For every 100 females killed, only 45 males were killed. As Kruuk says, "It seems that the stallions are better able to protect themselves than their families." It was impossible to determine what made a zebra hunt successful, or what behavior on the part of the zebras aided in their escapes. It seemed odd that they let the hyenas get so close at the start. Kruuk postulates that if they ran every time they sighted hyenas, the disturbances would cut considerably into their grazing time.

The third species favored by hyenas, the Thomson's gazelle, is usually hunted by one hyena. Tommy fawns, which from birth to about two weeks lie hidden and well-camouflaged in clumps of grass, are actively searched for by hyenas who wander from clump to clump. When one is found, the hyena grabs and bites and shakes it. If there is more than one hyena present, the fawn is torn apart and consumed in a matter of seconds. Older fawns and adults are selected by sight and chased. Often the gazelle "stots" (a stiff-legged bounding gait, which is thought to act as an alarm signal and a distraction technique) when it is first

Hyenas swarm over a kill, while jackals wait for any leftovers. Hyenas eat fast, but this time they weren't fast enough. As is often the case, lions appeared. To see what happened, turn the page.

chased, and then breaks into a flat-out run as the hyena gets closer. Juveniles also bleat while they are being chased and their cries, plus the stotting, attract their mothers and other female gazelles, who then try to distract the hyena by running back and forth directly in front of it or just to the side of it. Kruuk says, "I have seen up to four female gazelles 'distracting' at the same time in aid of the same fawn—all to no avail, as the presence of a distracting adult does not seem to affect the hunting success of a hyena." The hyena simply ignores the mother or other females and continues chasing the fawn. The chase, which usually goes in a circle, is very fast. When the hyena gets close, the gazelle makes a series of quick turns which causes the hyena to overreach and swerve back. The gazelle may be able to escape by using this technique, but Kruuk has only once seen a hyena give up when the chase had reached the point of zigzagging. In a successful attack, the hyena catches up with the gazelle, grabs it and kills it, usually with a bite to the head or neck.

Other animals—such as kongoni, buffalo, eland, topi and warthogs—are also sometimes successfully hunted, but nowhere near as frequently as the ones discussed above. Kruuk once found 60 hyenas feeding from an adult buffalo which they had killed. Both eland and buffalo live in herds which react aggressively to hyenas. Herd members cooperate in defending their calves, making these species difficult to prey upon, and yet hyenas manage to make eland and buffalo kills from time to time. Again the hyena is confronted with different defenses and again it responds accordingly.

After watching more than 200 kills Kruuk was most impressed with the hyena's adaptability as a hunter: "Hyenas deal with the aggressive zebra, with the wildebeest or rhinoceros mother defending her calf, with the fast adult gazelle and its well-camouflaged fawn, with a wildebeest jumping into water and a warthog backing down a hole. They are obviously very versatile." The hyena, then, is clearly a true hunter in Ngorongoro Crater and the Serengeti, deserving that description as much as any lion.

Hyenas are responsible for the death of almost every wildebeest in Ngorongoro and for a smaller percentage in Serengeti. Although less is known about the population dynamics of the zebra than the wildebeest, their numbers remain about the same in Ngorongoro and it can be assumed that the hyenas are an important regulatory factor, since they are responsible for almost all of the zebra mortality. The Thomson's gazelle, on the other hand, is preyed upon by other carnivores (jackals, wild dogs, cheetahs), so the hyena is not the sole killing agent and it is difficult to say what proportion they are responsible for.

The hyenas in Ngorongoro not only compete with each other over food but, as we have seen, they must also compete seriously with the lion population there. The noisy hyena kills can attract lions from over a mile and a half away. In 244 kills observed by Kruuk, lions appropriated or ate from the carcass in 51 cases. Of 63 kills on which lions were found feeding, 51 had been killed by hyenas, which gives some indication of how little killing the Ngorongoro lions actually do. In the Serengeti there is much less competition—only 18 per-

A lion drives off the hyenas and appropriates their meal. When lions finished, the hyenas returned.

cent of the lion's meals are appropriated from hyenas.

As far as hyena numbers are concerned, Kruuk feels that the Ngorongoro hyenas are close to their upper limit, the competition over food preventing an increase in population. The competition must be very stiff, because the hyenas there do not live to anywhere near old age. In captivity hyenas have lived to a maximum of about 25 years; the oldest hyena skulls Kruuk found in the Serengeti were estimated at around 16 years old, and in Ngorongoro only about 12 to 13 years old. Most of the dead hyenas found had died violently, probably the result of food competition. Out of 24 hyenas found dead in Ngorongoro, 13 were killed by lions, four by other hyenas, two by man and five had died from starvation or disease. Thus the Ngorongoro hyenas cannot increase in numbers without their food supply somehow increasing.

The Ngorongoro herbivores, in turn, particularly the wildebeests and zebras, are limited by the hyenas. This may be a desirable situation. As Kruuk points out, "Most likely the effect of a sizable reduction in the hyena population in the Ngorongoro Crater would be an immediate increase in the number of wildebeests and zebras until another source of mortality would take over (most likely related to deterioration of range). If this were starvation or disease, the result of removing hyenas would probably be much greater fluctuation in ungulate numbers instead of the fairly stable situation that we have now."

The same cannot be said for the Serengeti. There the carnivores, including the hyenas, have not been able to increase in numbers to the point where they have a regulatory effect on the numbers of herbivores. The ungulate populations in the Serengeti are regulated by food supply, which in turn is affected by rainfall. Although food competition is not severe for the Serengeti hyenas and they appear to live to an older age, they still are not able to increase greatly in numbers owing to high cub mortality, which seems to be a result of migration of the ungulates. (Mothers leave their cubs for long periods to hunt.)

The killing of hyenas in East Africa, even in the national parks, has been a generally accepted occupation. Maybe the hyena is not the most endearing of animals, but it is certainly an interesting one and can be important to the overall ecology of an area. Unfortunately, few people see the animal in this way. Because of shooting and indiscriminate poisoning, hyenas have been eradicated completely in many areas and are gradually diminishing in much of their former range. Even in the Serengeti National Park, hyenas were shot on sight until just before Kruuk's arrival.

Kruuk has shown that the killing of hyenas in the Serengeti would not influence the ungulate populations, but that if the hyenas were reduced in Ngorongoro Crater, it might have a profound effect on the main herbivores and on the ecology of the whole area. Furthermore, if there were fewer hyenas in Ngorongoro, it might actually cause a reduction in the lion population as well, as the lions would then find it necessary to hunt, which is not as easy a way of obtaining food as simply appropriating it from hyenas.

255

Announcing a major development in fire fighting. Faster water.

Fighting a fire is fighting time.

Every minute wasted may cost thousands of dollars in property destroyed. Every second saved may be a life.

And yet, a fire fighter can't always move as fast as he would like.

Because his basic weapon, the 2½-inch fire hose, when full of water, is about as hard and unyielding as a steel pipe. The only way to bend it around a corner is to shut the water off.

And to lug it up a flight of stairs is a test of any man's stamina.

All of this makes it easy to understand why a Union Carbide product called UCAR Rapid Water Additive is revolutionizing fire fighting.

Rapid Water Additive mixes easily with water and makes it flow faster through a hose by reducing friction.

Because the water flows faster, fire fighters can get just as much water as before using a smaller 1¾-inch hose that weighs half as much.

The smaller hose makes a much better weapon. It bends around corners. It can be carried up a stairway fully charged. In short, it helps firemen get water to the fire faster.

At the same time, it makes their job safer and less strenuous.

Rapid Water Additive was invented by Union Carbide and perfected in cooperation with the New York City Fire Department.

It's already helping fire fighters do their job more efficiently in many American cities.

Yours may be one—now or soon.

UNION CARBIDE

Today, something we do will touch your life.

A plane with wing scoops for collecting air samples flies over a steel plant in Fontana, California.

Ozone is one pollutant monitored; it has been found as far as 70 miles downwind from power plants.

By Mariana Gosnell

Ozone—the trick is containing it where we need it

Man may break it down in the stratosphere, where it's essential, and produce too much of it down here, where it is poison

You heard the news. First, that a fleet of 500 supersonic transports, flying at over 50,000 feet seven hours a day for one year, could emit enough nitrogen oxides in their combined exhaust to wipe out a portion of the stratospheric gas layer that guards all life on Earth from ultraviolet rays. Then came the warning that heat from the fireballs of nuclear explosions could tear into the same gas shield, breaking the plant and animal food chain needed on Earth by survivors of a nuclear war. Perhaps most ominous of all was the prediction last fall that the innocuous sprays in some household aerosol cans could be changed by sunlight into free chlorine, which would attack and destroy even more of the gas band, causing thousands of new cases of skin cancer and altering the Earth's climate.

What is in that precious, vulnerable gas band? A substance with bizarre properties and a dual personality: In the stratosphere it acts as a shield to protect us from deadly ultraviolet radiation, but on Earth it is one of the most toxic pollutants known. Ozone—invisible as a gas, deep blue as a liquid, blue-black as a solid—is an allotropic form of oxygen with three atoms instead of two. It is therefore highly unstable, ready at any time to give up its extra atom to other molecules. This is what makes it toxic (more poisonous than cyanide or strychnine or carbon monoxide), given to producing unexpected, violent explosions, and a more powerful oxidant than oxygen itself.

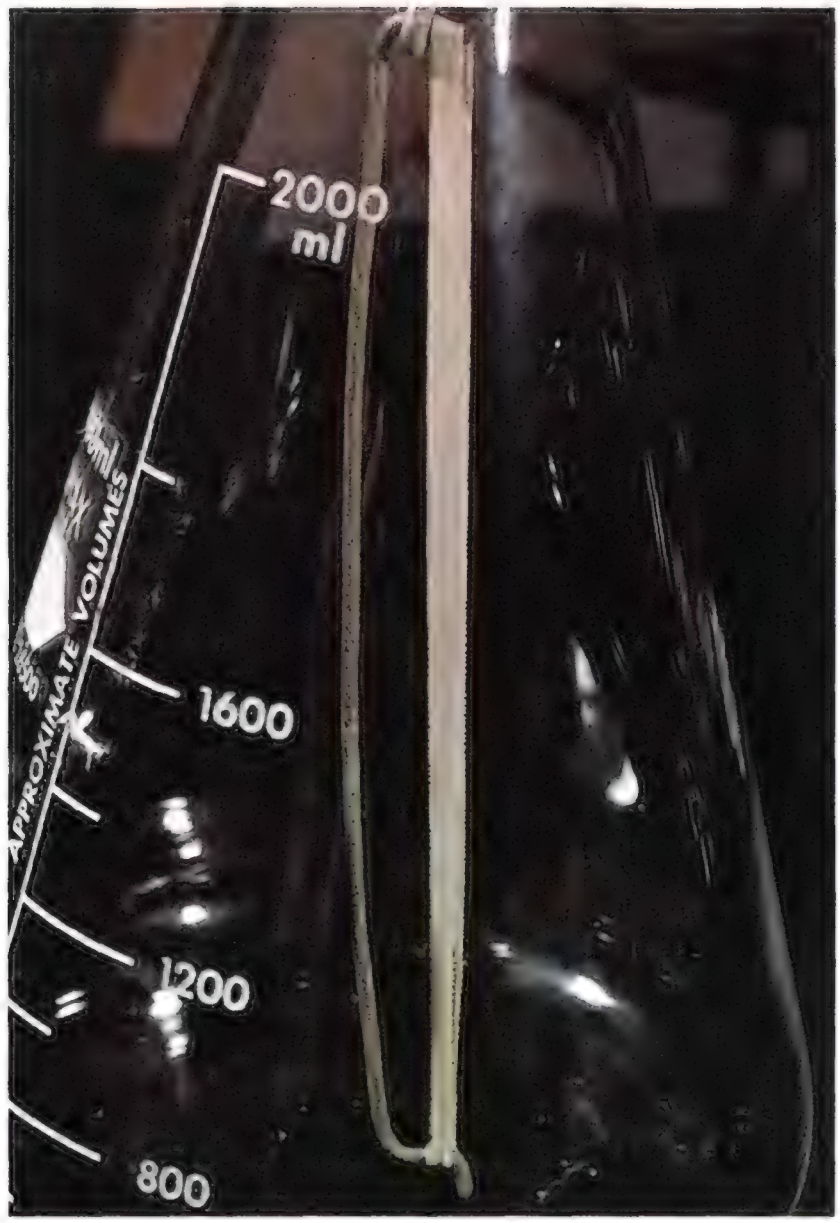
Its name comes from the Greek, meaning "to smell." People have described its odor variously as like new-mown hay, pungent, like freshly ironed sheets, acrid, disagreeable, sweet, like chlorine bleach and as something that "gets you at the back of the nostrils." Created when a spark passes through dry air (splitting oxygen molecules into single oxygen atoms, which then mate up with more 0_2 to form 0_3), the smell of ozone can be found near toy electric trains, leaking power lines and lightning.

Heralded for years as a disinfectant, bleach, deodorizer, and air sterilizer for asthmatics, ozone had something of a "good guy" image. Then, in the 1940s, Los Angeles tire dealers began noticing deep, wandering cracks in their stored tires, and housewives complained that rubber-lined washtubs, guaranteed for five years, didn't last more than one. Ozone was eventually identified as the culprit, a pernicious though hitherto unsuspected ingredient of smog, created in the Los Angeles bowl by a mixture of hydrocarbons, nitrogen oxides and a lot of southern California sunshine. It was soon found to be affecting far more than rubber tires and tubs: the lettuce and spinach of local truck farms, playground equipment, city trees, petunias and hibiscus, and—in one of the many little ironies of the ozone story—the lungs of asthma victims.

Though all the effects of ozone on the human body are not understood, it is definitely known that it is an irritant to the lungs, causing coughing, tightness, pain and fatigue—especially in the very young, very old, very sick or very active, and there is some indication that it may affect the blood, lower resistance to infection and even, in combination with other chemicals, be a cocarcinogen.

Over the last 20 years, readings of ozone levels have been taken in Los Angeles at least once every single minute (one early method, still used for demonstration purposes, is to hang a one-inch strip of rubber in the

A blanket of smog, including ozone, presses down on San Bernardino-Riverside area of California.



In these pictures taken a few seconds apart, a rubber band placed in a flask of ozone first begins to crumble, top, and then to crack, bottom. Now a demonstration, it was once a test for ozone.

ambient air, pinch it, and see how fast it cracks—sometimes that takes no longer than a minute and a half). The readings are regularly included in local weather broadcasts, and are the basis for calling alerts, canceling gym classes and keeping poor risks indoors. Although the number of alerts has dropped off in recent years because of a strict auto-control program (both hydrocarbons and nitrogen oxides come chiefly from auto exhaust), last year the city exceeded the federal air quality standard of 80 parts of ozone per billion parts of air on 237 days. Ozone is still the Los Angeles area's number one air pollution problem.

Recently, ozone levels well above 80 parts per billion (ppb) have also been recorded at rural stations well away from such photochemical cooking pots as Los Angeles—on a mountaintop in New York, a farm in central Ohio, a ship in the Atlantic.

How much, some researchers were asking, does nature contribute to ozone buildup? Although not much is known about the interchange between the stratosphere and troposphere, it is generally assumed that there is some slow, downward mixing of stratospheric ozone, which reaches Earth after a couple of years, and that tongues of upper-level ozone are sucked suddenly to the ground during violent storms as well. But the contribution of such "background" ozone was always considered minor. Starting last year, two scientists at the New York State Department of Environmental Conservation, William N. Stasiuk and Peter E. Coffey, have bagged samples at mountain and valley sites, as well as at the top of the World Trade Center in Manhattan. From their readings, and others, they reported uniformly high levels over large areas—"from here to Wisconsin and up to Ottawa," says Coffey—"for days at a time, usually when there was a high-pressure system with winds from the southwest." This led them to the controversial conclusion that "there are regional blan-

kets of ozone, and high urban loads are mainly the result of ozone-rich air being carried into the city from the surrounding air mass." "Man's contribution," Coffey speculates, "may be small."

To confuse matters, a second "natural" source of ozone is the greenery of needle-bearing trees and other plants, which gives off hydrocarbons known as terpenes. Though different in structure from the hydrocarbons in auto exhaust, like them terpenes react with sunshine and nitrogen oxides in the air to form ozone. Tons are released every day by plants (perhaps 55,000 tons, more than half as much as autos put out), yet the chemistry of ozone formation is so complex and skittish that nobody can say for sure what the contribution of vegetation to the ozone burden is.

There are guesses, though. The current best ones for the sources of earthly ozone are 20 to 40 ppb from the stratosphere, 20 to 30 ppb from forests, and the rest—"what pushes us over the edge," according to Lyman A. Ripperton at the Research Triangle Institute in North Carolina—is from Man. "Wherever we have found ozone," says Ripperton, who disagrees with Stasiuk and Coffey about the importance of human input, "we've found acetylene, the biggest source of which is gasoline combustion."

As might be expected, depending as it does on sunlight, ozone is especially rich, and especially corrosive, during the spring and summer growing seasons. It causes the greatest damage to plants of any pollutant in the country, attacking sweet corn, red clover, citrus fruits, alfalfa, beans, celery, radishes, tobacco and grapes, among others. To combat ozone burn, and more subtle effects such as retarded growth and reduced yield, scientists are trying to develop resistant strains.

Despite all the evidence of wrongdoing, however, ozone has begun to regain a bit of its old Mr. Clean reputation. It's being considered as an alternative or accompaniment to chlorine for purifying drinking water. Chlorine has come on hard times of its own, as it forms compounds that are harmful to fish and other stream life, and perhaps to man as well. Ozone is known to kill only bacteria and viruses, which it does 100 times faster than chlorine. It breaks down pesticides and detergents and, best of all, leaves no aftertaste or smell. But it is also expensive, requires a lot of electricity to generate, and has no residual germicidal power since it disappears by the time the water hits the tap. There are hundreds of ozone water systems abroad—the first was set up on the French Riviera in 1906, and Paris and Moscow now have large operations—but less than a handful in the United States.

Today ozone is also used to treat industrial wastes and municipal sewage, but it seems to be most popular in controlling odors. Despite its name, ozone doesn't mask other smells with its own; it removes the offending molecules by oxidizing or "burning" them.

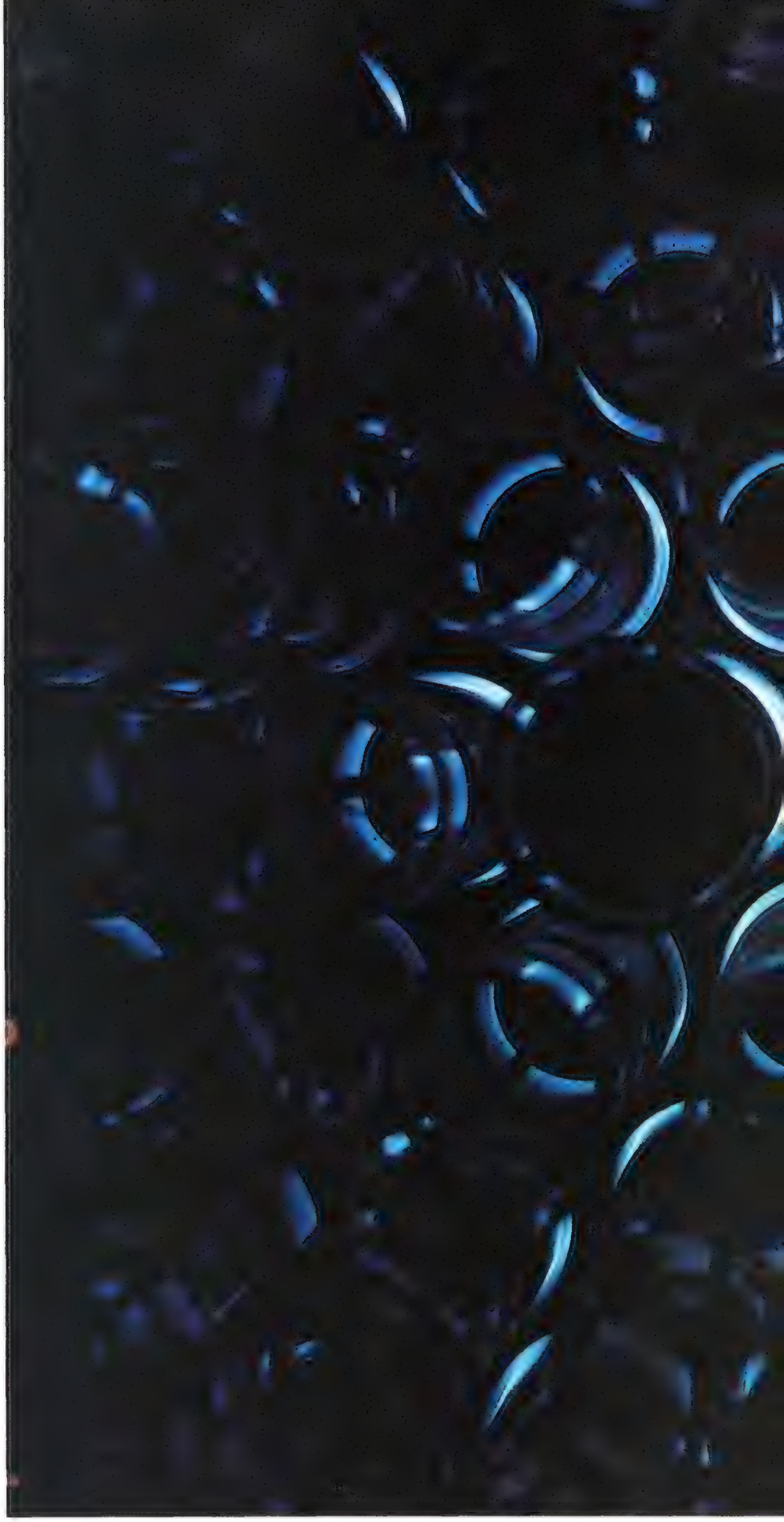
Some lima bean plants can tolerate ozone better than others. Variety at left shows discoloration and leaf damage. The middle one is turning yellow. The resistant plant at right is almost injury-free.

For all the ozone on Earth, produced by automobiles, lightning and trees, it's a minuscule supply compared to what's in the stratosphere—where we want it. There is perhaps 100 times as much ozone aloft as below—but even that is a tiny amount as far as gases go. If the ozone belt, which extends from 10 to 20 miles above the Earth's surface, were moved to an area of standard temperature and pressure, it would measure only one-tenth of an inch thick. Yet without it, surface life on Earth would probably never have evolved.

Millions of years ago, there were no molecules of oxygen on Earth, but there was lots of water vapor. Sunlight broke up the vapor, releasing hydrogen atoms into space. The remaining oxygen atoms formed molecular oxygen; then, as more accumulated, ozone. One theory goes that ultraviolet energy from the sun, before there was an ozone layer to block it, helped convert some of the simple gases on Earth into simple amino acids, precursors of biotic life. As the ozone shield developed, the amino acids began to form more complicated molecules, such as DNA, the basis for the genetic code in all living organisms, which can be broken down by ultraviolet radiation. Thus the absence of the ozone shield allowed the life process to begin; its appearance assured that the process would continue. Today ozone absorbs 99 percent of the sun's ultraviolet rays at the most lethal wavelengths, 300 nanometers and below.

The ozone band doesn't shield all parts of the Earth

The author is an associate editor at Newsweek, *where she covers science and medicine.*



Inside an ozonator, brilliant electric arcs split oxygen molecules into single atoms; the free

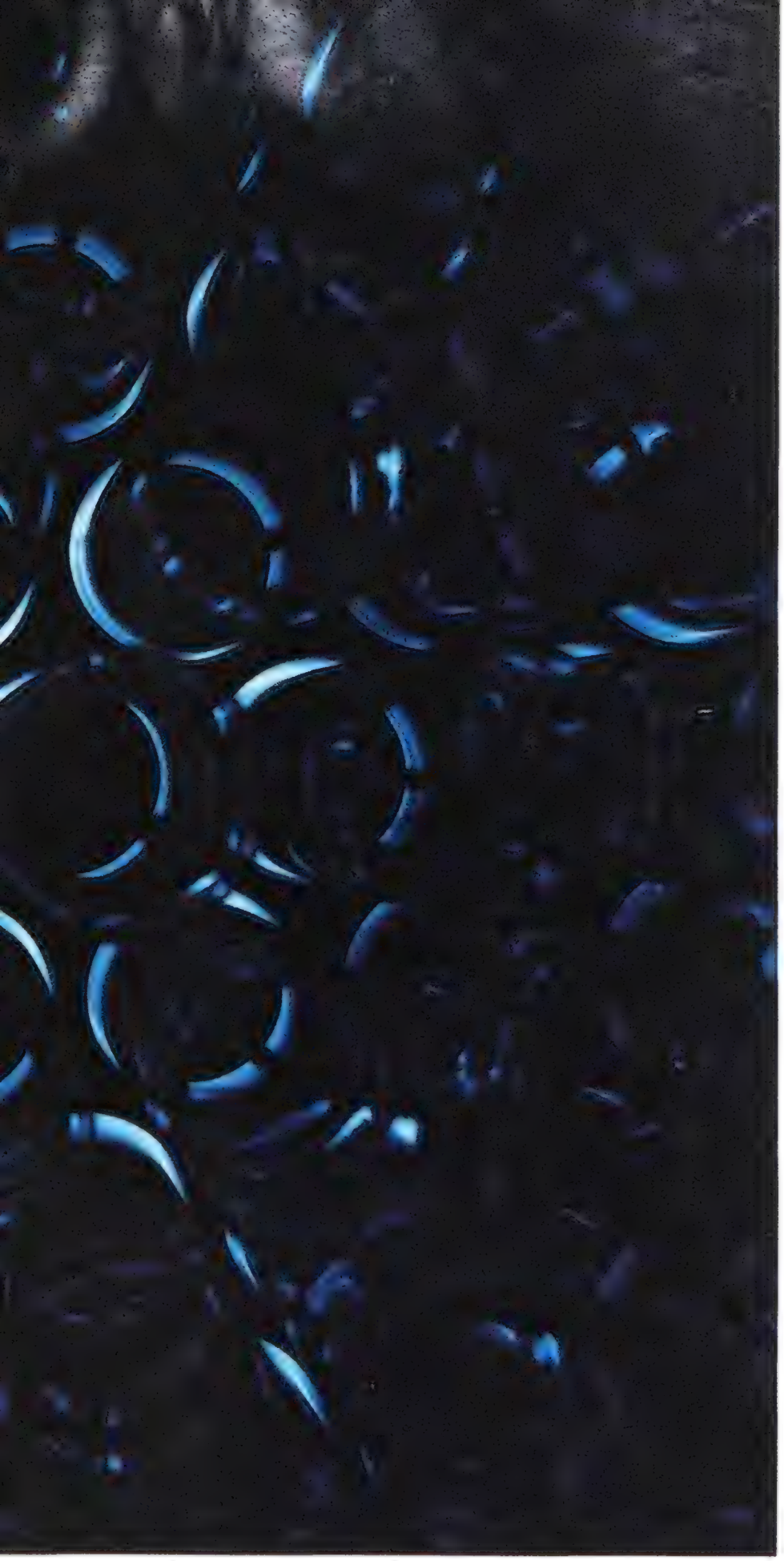
equally, however. Its upper and lower edges lift and fall, and its density changes drastically according to season, weather, latitude, and what the sun is doing. On a typical day, the amount of ozone over Minnesota is 30 percent higher than it is over Texas, 900 miles to the south. But even in Minnesota it may be 25 percent higher on one day than another.

Despite its shifts, bulges and peculiarities, the ozone belt is considered stable. The only natural catastrophe believed possible is a supernova explosion 50 light-years or less away, which could remove 90 percent of the ozone for up to a century. However, such explosions occur only about once every 300 million years.

The first indication that man might be altering the equation came five years ago when scientists who were contemplating the possible effects of SST exhaust on the stratosphere warned that water vapor could diminish the ozone layer by one or two percent. Soon afterward, Harold Johnston, professor of chemistry at the University of California at Berkeley, made the startling suggestion that damage due to water vapor would be nothing compared to what nitrogen oxides would do: speed up the destruction of ozone by a factor of 4,600. In only one year of full-scale operation, he said, 500 SSTs could destroy half of the ozone layer.

Since Johnston first sounded the alarm, at least eight other investigators have made computations on the stratosphere and have come to similar conclusions, although estimates of the degree of loss have been reduced to about 10 to 20 percent as a result of new information about the stratosphere. The latest word was pronounced early this year by the Department of Transportation after a comprehensive three-year study. Its panel of experts concluded that although the planes currently in use present no real hazard, "serious consequences [can be expected] if either supersonic or subsonic [or, one day, hypersonic] fleets are expanded to large numbers without imposing a strict limitation on engine emissions."

Another, graver threat to the ozone layer was discovered "by accident" during the SST inquiry. Intense heat from nuclear bombs, rising more than eight miles into the air, would produce enormous quantities of nitrogen oxides (a single-megaton blast can generate 10,000 tons of nitrogen oxide), which would remove



atoms then combine with other oxygen molecules to form the three-atom molecules making up ozone.

even greater quantities of ozone. But the damage wouldn't stop there: The nitrogen oxides would recycle, in an extended chain reaction, and ozone would continue to be depleted for many years after an explosion. During 1961 and 1962, when the United States and the Soviet Union set off about 300 megatons of nuclear explosives, the ozone layer is thought to have shrunk by about 4 percent. A nuclear war, the

Banks of ozonators form ozone from oxygen in the air at the Cincinnati plant of Emery Industries.

Pentagon admits, could destroy ozone over the temperate regions by 50 to 75 percent.

Yet probably the greatest menace to the ozone supply is an absurdly small, weak item, compared to supersonic jets and nuclear warheads. As satirist Russell Baker put it, "[I'm] destroying the Earth for whisker removal." The common everyday household aerosol can, which squirts underarm deodorant, bug killer, air freshener, oven cleaner and hairspray on people's bodies, furniture and houses at the rate of 600,000 tons a year, also squirts the can's propellants into the air. Nearly all sprays used on the human body and as many as half of the others have as their propellants chlorofluoromethanes or fluorocarbons.

These gases are inert, which makes them invaluable as propellants: They aren't dissolved by water, absorbed by plants or soil, or broken down by other chemicals or the contents of the cans. They may have lifetimes of decades in the troposphere, where everyone considers them harmless. Once they enter the lower stratosphere, it takes many more years for them to reach higher elevations in the stratosphere where they were also considered harmless, until recently. Last year two chemists at the University of California at Irvine, F. Sherry Rowland and Mario J. Molina, figured that "hard" ultraviolet light, available only above the ozone layer, would break fluorocarbons down and release free chlorine atoms—which are six times more powerful in annihilating ozone than nitrogen oxides.

Hurriedly, other scientists calculated, too: Michael B. McElroy and Steven C. Wofsy of Harvard University estimated that if the production of fluorocarbons were stopped immediately, an unlikely occurrence in a $3 billion-a-year industry, the ozone layer would

Courtesy Time-Life Nature Science Annual

A shadowgraph shows discharge from a spray can; the turbulence above and below is the propellant.

still be depleted 1½ percent by 1985. If production increased at 10 percent a year, the ozone layer would go down 15 percent by the year 2000. Since it takes anywhere from 10 to 200 years for the molecules to reach a level where they can be split by sunlight, the effects of the gases already released might be felt well into the 21st century—or longer.

Why all the fuss? What would happen if the ozone layer were destroyed? The most immediate fear is of widespread skin cancer. Estimates are that a 5 percent decline in ozone would mean 30,000 new cases of skin malignancy (including the dreaded melanoma) added to the present 300,000 cases a year in the United States.

What plants and animals might suffer is more speculative. Ultraviolet radiation appears to slow the growth of some plants, and cause increased mutation rates and decreased photosynthesis in others, but little has been measured so far. Contrary to popular belief, ultraviolet light does penetrate water, to depths of several feet. Plankton, the basis of the ocean's food chain, has proved sensitive to an increase in ultraviolet radiation in the lab, and if it is sensitive in the sea as well, the entire marine ecosystem could be disrupted. As for insects, most see in the ultraviolet range and a change in intensities might disrupt their celestial navigation, recognition of flowers and mating behavior as well as cause genetic damage.

A long-term effect of a weakened ozone belt could create a turnabout in the world's climate. As an absorber of ultraviolet, as well as infrared and visible radiation, ozone is the heat source of the stratosphere. A thinning of the layer could mean temperature and wind shifts in the stratosphere, which in turn might induce tropospheric variations, leading to changes in growing seasons, the location of deserts and rain belts and the levels of the seas. Stephen Schneider, deputy head of the climate project of the National Center for Atmospheric Research, predicts that a 50 percent reduction in ozone would create a cooling, by almost 1 degree F, which is as large a global change as the Earth has seen in the last two centuries.

Some scientists have called for an immediate ban on aerosols—"the benefits gained," says Rowland, "aren't worth the risks we're taking"—and suggested using roll-ons, pump valves and fingers instead. Meanwhile, investigators are preparing to barrage the sky with balloons, aircraft, rockets and satellites to measure fluorocarbons and other chlorine-bearing compounds (they expect to have evidence whether the fluorocarbon threat is real or not within three years).

James E. Lovelock of Britain's University of Reading estimates that the supply of natural chlorine compounds in the stratosphere (the most abundant being methylchloride from the sea) is much higher than previously assumed. If further research confirms his findings, fluorocarbons may win "a stay of execution," says Lovelock. A Dupont spokesman, Ray McCarthy, makes this point: "The planet has compensated over the last four billion years for some very dramatic changes. . . . I think the biosphere has feed-back mechanisms that maintain the equilibrium so that life on Earth goes on."

Other researchers claim, however, that ozone's capacity for self-healing will be limited in the face of unnatural, man-made attacks, and depletions could be one-way rather than cyclic. Three years ago, Mariner 9 discovered ozone on Mars but it appears mostly in wintertime and only over the polar regions. Presumably, all impurities such as water vapor are frozen out during Martian winters, allowing ozone to form, but in warmer months they either attack the ozone directly or inhibit its formation. On Venus, where nobody has yet seen any ozone, clouds of hydrochloric and sulfuric acid may be interfering with ozone genesis. "That shows what a fortunate situation evolved here," says Charles A. Barth, director of the Laboratory for Atmospheric and Space Physics at the University of Colorado. But we may not remain fortunate: "Almost any impurity will end up destroying ozone," says Barth. "Instead of worrying about each new complicated molecule we put into the atmosphere, we might as well worry about all of them."

Cooled blue ozone is adsorbed onto silica gel granules in a University of Maryland chemistry lab.

A new expression of Cadillac excellence.

International in size. Timeless in styling. Cadillac in craftsmanship. Seville is designed to be one of the finest production cars built anywhere in the world. Responsive. Rugged. Smooth of ride. Solid of feel. And efficient. About 25 inches shorter than full-sized U.S. luxury cars, it has about the same overall height.

In mileage tests conducted by the Environmental Protection Agency, Seville got 13 miles per gallon in the

city test. And 19 miles per gallon in the highway test.

The signs of quality are everywhere. In the way it drives—Cadillac's Electronic-Fuel-Injected, 5.7 Litre Engine is standard. In the way it's built—with the use of space-age techniques. Even in the way a chime asks you—not tells you—to buckle up.

This is one of the world's best-equipped cars. Even Cadillac's AM/FM Signal-Seeking Stereo Radio is standard.

And, as a Cadillac, Seville is a car of integrity. With over 1,600 Cadillac dealers across the country, service will be one of its great strengths.

A new driving experience awaits you when you visit your Cadillac dealer.

GM
MARK OF EXCELLENCE

Cadillac Motor Car Division

By Robert Wernick

A private man whose profile became public

Widely known through studies by his famous brother Alberto, Diego Giacometti now is molding a growing reputation of his own

The face that greets you at the studio door is grave, friendly, yet shy—a very private face, for Diego Giacometti has been known to throw his coat over his head at the sight of a camera. Yet his is one of the most widely known private faces in the Western world—recorded in the busts and paintings and drawings of his brother Alberto, in hundreds of museums and private collections, it has burned itself into the recollection of countless viewers. (The Smithsonian Institution's Hirshhorn Museum has a vast collection of Alberto's sculptures.) For most of his life Diego was a kind of shadow and appendage to Alberto; now, blinking a little in the light of recognition, he is beginning to be perceived as no longer merely a brother, but as an independent artist in his own right, with a distinctive and inimitable style. At openings people whisper, "Look, there is Diego, you know, the marvelous Diego." They ask him for autographs; he has been lured onto television.

Alberto was making Plasticine busts of Diego at the age of 13. For years Diego was to sit in his brother's dark, dusty studio on the rue Hippolyte-Maindron in Paris, cluttered with clay and plaster and canvas; he was to sit on the same chair in the same pose staring out into the narrow alleyway flanked with casts of horsemen from the Parthenon, while Alberto stalked the proportions of his nose and ears and stubborn chin, searching to impose his tragic vision of humanity on this highly individual face.

Diego was more than model for all those years. He was collaborator, technician, confidant, slave. He mixed the plaster, he made the casts which translated thin clay forms into solid molds. He carried the finished plaster to the foundry, he polished and patinated the sculpture when it came back as bronze. He was up all night before the shows opened, casting the works that Alberto had finished at the last minute, carrying them still wet to the gallery. And there he would prowl with him up till opening time, while Alberto restlessly scratched a new line here, or added a daub of color there.

For decades the two brothers lived within a few blocks of each other, worked side by side every day, ate together several times a week, rubbed elbows with the same artists, dealers, collectors, barflies—and managed to be as different as two brothers possibly can. Alberto, even as a young man, had a deeply lined face, an explosive style of speech, haggard eyes, a tormented, corrosive intelligence. Diego was practical and prosaic. Working together, they could communicate almost without speech; in the studio it was as if Alberto had four hands he could control at once.

Counterpose: The image, bronze by Alberto, his universal man. The reality, Diego, the model.

A sculpted bequest

Alberto died in 1966 and went into the ultimate dark which had always haunted him (he never slept without a light shining in the room). Diego went home to see him buried, then rushed back the very next morning to save his last work, a brooding portrait of the Romanian photographer Elie Lotar with his hands on his knees. He had to hurry because the clay was wet and the fire in his coal stove sinking, and it was winter; if the water in the clay froze, the statue was ruined. He made the plaster cast in time, and eight bronze casts of it were eventually made. Diego under Swiss law had a right to one-sixth of his brother's estate and thus inherited one of the eight bronzes—it was almost all he did inherit, for Alberto squandered his money as fast as he made it and, though always aware of death, never made provisions for his own. He left no will, and Diego, who might have picked up a fortune in the course of his life by making his own collection of Alberto's sculptures, had never thought of asking for any, since he lived with them all the time. His cast of the Lotar portrait was placed last summer on Alberto's grave in Stampa (p. 65).

Diego for months after his brother's death wandered disconsolately through Paris. "What is there for me to do now?" he would say over long brandies at the bars

Photographs by Ralph Crane

Bronze flora and fauna in Diego's studio await
the finishing touch that will convert them into art.

where Alberto had burned away the nights of his last years, "I might as well herd goats in Patagonia."

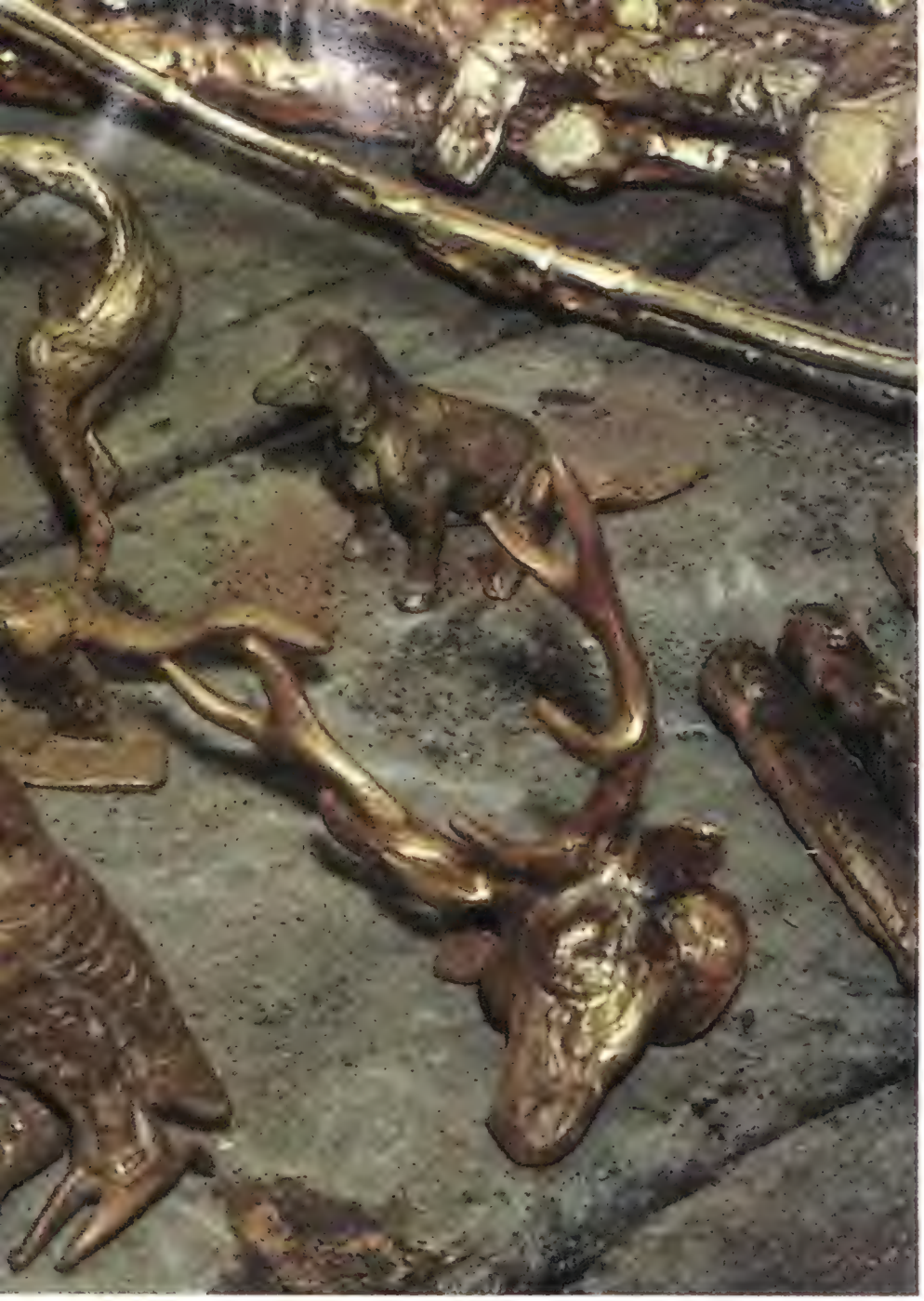
He did no such thing, of course. A faithful brother and a good Swiss, he went back to his trade. He had already begun to make a name for himself with little ornamental figures and pieces of bronze furniture, at first gifts for his friends, later snapped up by collectors. Little by little, the furniture began to become fashionable, and over the years objects such as a Diego table with dog's head finials, or a Diego chair with lions' heads on the armrests, have become objects vied for in the auction rooms; they are regarded as important works of contemporary art. He thinks, or says he thinks, that this is all nonsense.

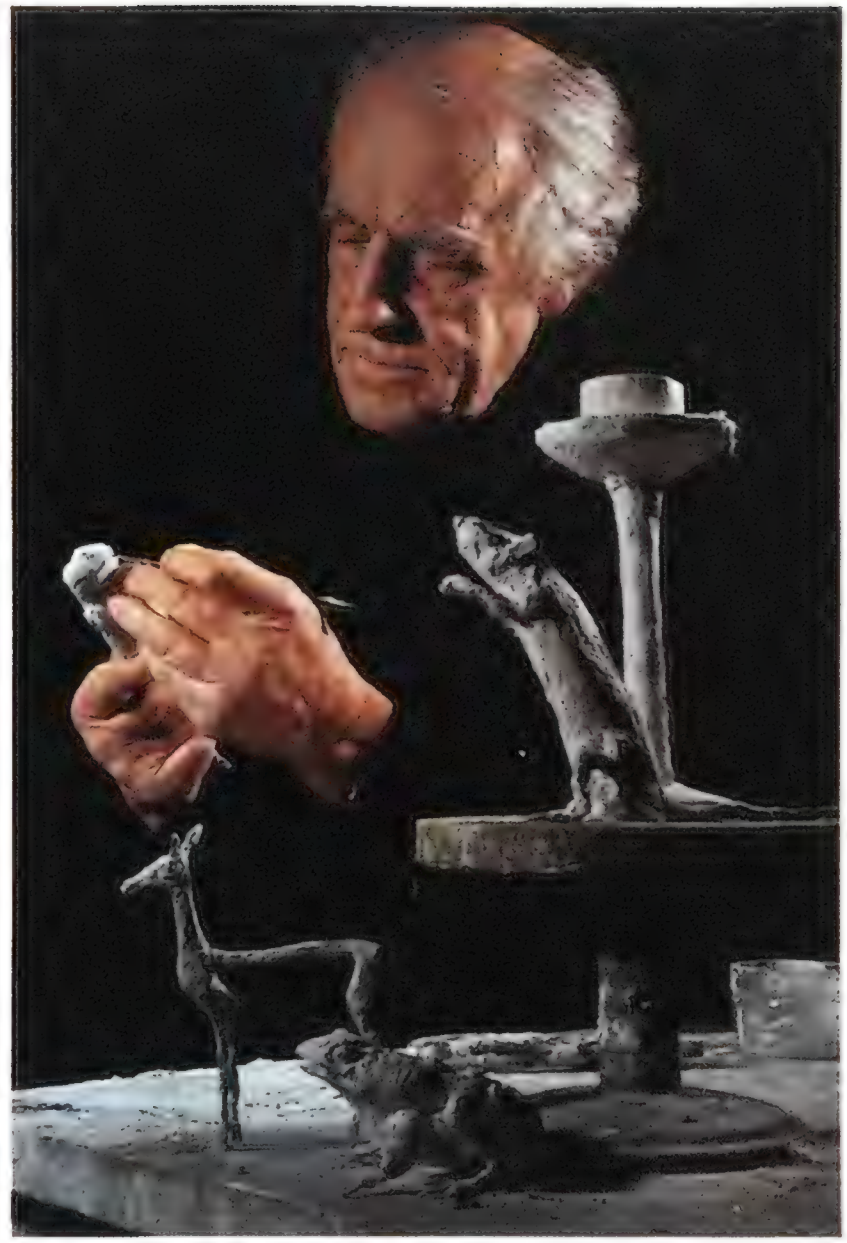
The self-depreciation is not to be taken too seriously. Diego has spent his life in the world of art, he moves through it effortlessly, his knowledge is great, his judgments precise and deeply felt. He flinches from art talk.

He sees with a cool, sharp vision tempered, perhaps, by the mountains among which he grew up. Both brothers were deeply marked by their childhood in the Bregaglia valley, just over the border from Italy in the extreme southeastern part of Switzerland, where they were born just after the turn of the century. It is an Italian-speaking, largely Protestant valley which was in the 16th century a key point in European high strategy, but which since then has been a backwater quite ignored by history. It runs east-west between sheer mountains, and most of the year it gets very little sun. In the early part of the century, snow cut it off from the outside world many months of the year. Life there, says Diego, was isolated, medieval.

For all its isolation, this was not quite the end of the earth. The boys' father, Giovanni Giacometti, a farmer's son, had become a distinguished painter who had traveled widely, studied in Munich and Paris and Pont-Aven, absorbed many of the innovations of post-impressionist art, and acquired a solid reputation as one of the leading painters of Switzerland. He had gone home to Stampa to raise his family, and could support them comfortably through the sale of his works to a wide circle of collectors.

If Alberto, marked from the start to be an artist, carried the mountains only as part of the dark background of his mind, Diego was very much a child of the country. While his brother read and sketched and brooded in caves, Diego spent active days climbing, hiking, skiing, learning the ways of the marmots and the frolicking otters, caddying at the Maloja golf course, smuggling currency across the Italian border during the years when the serene Swiss sky was shaken by the thunder of Italian and Austrian artillery across the mountains. He held odd jobs in nearby towns and went off to seek his fortune like any other valley boy, even spending an improbable year or two in Algeria and Egypt on business which he vaguely describes as connected with cotton.





A strange and endearing family of animals, created in plaster, comes into being, en route to foundry.

But by the middle of the 1920s he had found his path and was in Paris, where Alberto needed someone to help him, and Diego was glad to learn a new trade. He learned from the ground up: all the ins and outs of carving, molding, welding, casting. He lived the life of the times, met all the famous surrealists and bohemians, drifted through Montparnasse with American heiresses, and drank at the Dôme with young men like Georges Simenon who said they were going to be famous. Except for yearly pilgrimages to Stampa, he has hardly budged from Paris since, hardly budged from the 14th arrondissement.

Fame had come early to Alberto. His obsessive sexual constructions of blocks and balls and pointed blades had made him a favorite of the surrealists. He took part in their conclaves and demonstrations, and their pastimes such as the *Jeu de la vérité,* which as its name indicates consists of giving one's friends truthful (almost always disagreeable) answers to their questions. But by the Thirties he had drifted away from his admirers. He was trying to model heads, even though André Breton was on record as having told him, "Everyone knows what a head looks like." Peggy Guggenheim took one look at the heads and said in horror, "How Greek!" and shut up her pocketbook. These were the desert years.

To make a living, the two brothers had been collaborating on turning out lamps, brooches and ornamental objects of all kinds for a big decorator. More and more of this work devolved upon Diego, while Alberto scratched and scraped away at his clay and plaster heads, reducing them little by little to the size of postage stamps, fingernails, matchheads. When they left Paris on bicycles—Diego with his friend Nelly on a tandem—the day before the Germans marched in, in June 1940, all of Alberto's recent production was stuffed into a cigar box.

The Germans caught up with them a couple of hundred miles away, and shortly they were back in Paris. Alberto eventually went off to Geneva and spent the rest of the war there. Diego went to work again on the rue Hippolyte-Maindron.

An attenuated linear fox and a chubby little tree inhabit a fanciful furniture world.

When old friends came back to Paris after the liberation, they found a strangely changed Diego. It was not so much the bombings, which for most Parisians were merely a spectacular fireworks display, since only the suburbs were targets. Nor was it the privations, for with a little money you could live quite well in Paris during the occupation, if you didn't mind walking a few miles back home from your favorite black-market restaurant, where you could always spend the night drinking if you overstayed the curfew. But he was notably shabbier; the sleek Argentine look he had cultivated before the war, with his polished black hair and polished black shoes, was gone forever. Now his hair was gray-streaked and wild, and his face was creased, with plaster dust ground into the wrinkles. He had in fact begun to look rather like Alberto. It was as if, in those lonely seasons, cut off from all the world but a few close friends such as the painter Francis Gruber, he had obeyed an inner command to follow his brother's path all the way, as a deep-seated family duty. Just as there was always a Giacometti home on the main street of Stampa, so there had to be one in the Alésia quarter of Paris. It was something owed to all the tradespeople and window washers on their motorbikes, the plumbers and the drunks, who inhabit that quarter, to have a distinguished artist, a Giacometti, alive and living there, to add his own note of distinction to the nondescript streets.

Alberto came back in 1945 and took up where he had left off, modeling heads. Only this time it was generally Diego's head, and all day long he hobbled, red-eyed, around his sculptor's stand, malevolently poking at the daubs of clay. He was no longer a lonely figure—he was shortly to become world-famous, his gaunt figures a trademark, a hallucinatory image of the century.

Diego's work has none of Alberto's tragic intensity, or its sometimes melodramatic insistence. It is not meant to be conspicuous, it is meant to be used. The chairs are comfortable, the tables can be eaten off. They have a spare, solid eloquence, and would be at home in anybody's room. They are worlds apart from anything of Alberto's in tone and feeling. Alberto's bronze dog slouches along with all the weight of humanity's sins and sufferings on his narrow back, while a fox by Diego simply streaks through a space that is its own—yet the family resemblance is striking.

The skeletal bronze rods holding Diego's chairs and tables together are close kin to the limbs of Alberto's figures; and both may derive at some level of recollection from the hard, wiry branches of mountain trees. So much literature has been created about Alberto's metaphysical depths that he is often regarded as a mere expressionist, interested only in the communication of raw emotion. But beneath the surface tensions his work has a formal precision. It is in a solid tradition of sculpture that goes back to the Egyptian sculptures which fired his imagination when he first saw them in Italy as a young man. That same tradition, minus the metaphysics, is very much alive in Diego's work, and it is no wonder that many decorative objects, designed and executed by him in the days of their collaboration, have been sold at astronomical prices as genuine Albertos.

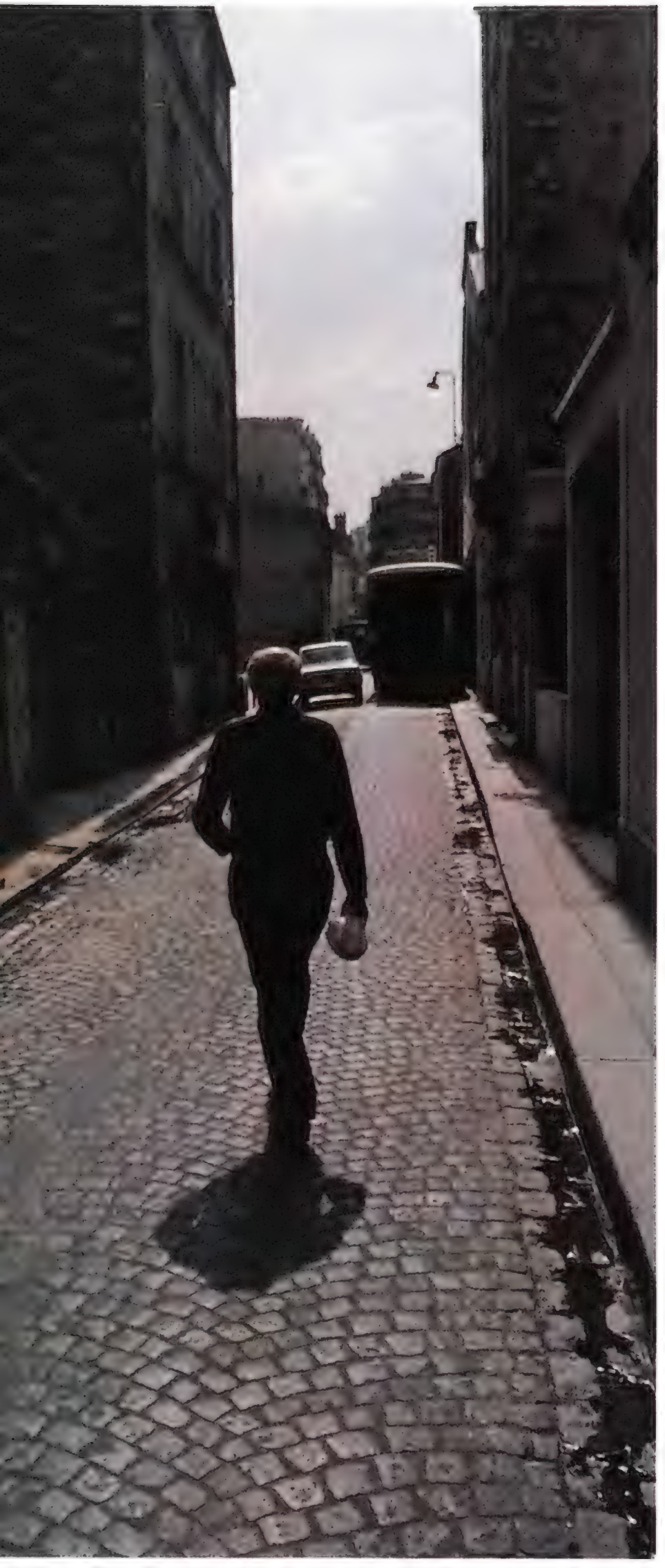
Diego's furniture-sculpture, very strong despite elegance and embellishments, is meant to be used.

In world-famous Maeght collection, Diego chandelier sheds friendly light on a Léger, below, and a Miró.

Diego's furniture swarms with animals—with cats, dogs, foxes, lions, eagles, owls, pigeons, frogs, hedgehogs, rats—and they all have a certain stamp: a grave, reserved self-sufficiency, a polite aloofness. These are qualities of Diego himself, and he has always shown a special kinship for animals that share them. He has never lived without a stray cat or two, rescued from the streets and sharing with dignity the life of the studio in between excursions on the rooftops. Once he had a pet spider, which he spoiled dreadfully, trapping so many flies on a lump of sugar and edging them over to its web, that the web ended up studded all over with cocooned victims, like so many hams in a Swiss peasant's larder. Once he had a pet fox named Miss Rose, a German fox brought back to Paris by a returning prisoner of war, who was keeping her locked up in a closet. Diego took her to the comparative liberty of his studio, where she kept him furtive yet friendly company, though all the dogs of the neighborhood howled and Alberto complained of the smell. It was probably Alberto who left the door deliberately open one morning so that she could get lost. It was the most rancorous moment of their life together, and Diego worries to this day about whether she made it through the southern suburbs into open country.

Beasts like these, translated into bronze, perch on Diego's work, proud, private, self-contained, quite autonomous. They are always animals living their own animal lives without reference to any dramatic human interpretation that might be forced on them. Horses' heads surge in baroque splendor out of a candelabrum made for the American painter Francis Parker in Cambridge, but a little fox's head peeps out curiously at the base, with an equal sense of belonging. St. George goes charging, one concentrated rush of blazonry, on his steed under the table made for Signora Angeletti in Rome; the dragon coming out of his lair to face the knight has a simple earthy look, a creature defending its home and its existence.

The animals are numberless now, as the orders come piling in from the fashionable addresses, the avenue Foch in Paris, Kolonaki in Athens, Holmby Hills in Los Angeles. The casts pile up in the courtyard of his new house, a pleasant shaded little retreat now being squeezed in by high-rises, just around the corner from the studio. He lives alone now (Nelly, a really ferocious animal-lover, retired a few years ago to the South after renouncing the whole human race when the Russians put up a dog in their sputnik), an elderly gentleman with a monklike fringe of hair which has only recently modulated from a tangled frizzy gray to a benign and distinguished white. The deep-eyed bronze lion door knocker, which might be a self-portrait, is prelude to the man within, still quite vigorous at 73,



On a lonely walk down the alley close to his brother's studio, he nears the rue Hippolyte-Maindron.

unobtrusive and courteous and quite set in his ways. He can still stay out until two or three in the morning at the old haunts with the surviving old friends, despite a stomach whose interior his doctor likens to the battlefield of Verdun (yes he remembers some awful pains thereabout 30 years ago; he has since learned it was an ulcer which periodically awakens and drives him to short-lived sacrifices like giving up whiskey for wine). But he gets up every morning at seven to go back to his armatures and his mixing bowls. He works all day, stepping out occasionally for a black coffee at Mado's café around the corner, or to buy food for his cats. He used to eat lunch at a restaurant nearby, but since they closed the restaurant he has given up lunch. Customers are always dropping by pleading for some new work, and leaving gift offerings of Scotch or caviar. There are invitations from countesses and Greek shipowners for dinners, and the Ministry of Culture wants him at its big openings; he has tailored English suits for these occasions. But he prefers his high society in small doses: "Givenchy," he grumbles, "wants me to go on a cruise in the Aegean on a yacht; what in God's name can you do on a yacht?" If he is alone for dinner, he takes a taxi about ten o'clock to Bartolo's, a Neapolitan restaurant in Saint-Germain-des-Prés, where beneath pictures of Vesuvius in eruption he orders the spiciest dishes on the menu and calls for more mustard. The cats are always waiting for him when he gets home. They grumbled loudly when he took to sleeping on the floor on account of his aching back; they were much more comfortable with him in bed. At seven, back to what he calls the factory.

As he grows older, his work has flowered into new shapes, his imagination grows more restless and poetical. The furniture is still sound and comfortable, the craftsmanship always impeccable, but a note of the odd and dreamlike comes in, the way it did in Alberto's early surrealist sculptures though without their cruelty and bite. The animals, without losing their naturalistic charm, verge into mythology; they become sirens or centaurs or totems. A chandelier made for Mrs. Paul Mellon in Palm Beach (whom he calls Mrs. Lemon, "c'est un fruit, n'est-ce pas?") becomes a floating garden of surging white flowers. Table legs swell into prehistoric goddesses; their struts and crosspieces look like the keel of the boat of the dead.

It remains good sturdy practical furniture, but it adds a new enchanted note to all those dining rooms and salons, fountains and staircases: a gay phantasmagoria, a magic garland of multitudinous Diegos.

Diego tends brother's grave in Stampa. The sculpture is the only bronze of Alberto's that Diego inherited.

GIOVANNI STAMPA
N. 1865, M. a ZACAPA AMERICA 1897

Exclusive from Jean-Paul Loup...

AN ORIGINAL LIMITED EDITION CLASSIC ENAMEL PAINTING ON COPPER

"THE JOUST" ● **Actual size framed 19″ x 16″.**
Plaque size 11½″ x 8½″.
Limited Edition of 100.
$750. each
(Includes handling, shipping and insurance).

One of the tragedies of progress is the death of unique art forms like classic enameling. That is why Jean-Paul Loup is proud to offer . . .

"THE JOUST", a limited edition enamel painting on copper . . . an original work painstakingly crafted in true medieval tradition.

Even if you are a lifelong admirer and discriminating collector of the enamelers' art, you have never seen a work comparable to **"THE JOUST".** It is a work which owes its unique, delicate beauty to a perfect blend of the talents of artists with the skills and craftsmanship of superb Master Enamelers.

Only Loup/Bétourné of Limoges, France (world's finest and largest classic enamelers) has the artisans and facilities demanded to create a masterwork like "THE JOUST" in a limited edition of 100. Here are a few highlights of the effort required:

- Months of research and experimentation to rediscover and reproduce the actual jewel-like medieval colors.
- Uncounted hours of demanding craftsmanship like that which went into the blue knight's and horse's surcoat. Each surcoat required special application of the medieval blue enamel—one of the most difficult colors to attain. What's more, to create **"THE JOUST",** it was imperative that in order to obtain more brilliance on certain colors, silver leaf had to be applied between the copper and the enameling. It was hand-cut and trimmed to within 1/10 of a millimeter around the edges for the most exacting beauty in each plaque. Each fleur de lis on the surcoat, the trim of the horses and several other delicate features were hand painted in Sévres Gold.
- Incredible detail! Over 150 figures are visible in the crowd gathered at **"THE JOUST"** and each was drawn by hand with the aid of magnifying glasses.
- **Technical perfection! 25 firings at temperatures varying from 1112 to 1832 degrees and from ten to twelve days of tedious work were required to perfect each painting. From original sketch to finished enameling, over 40 Loup/Bétourné skilled craftsmen had a part in producing this magnificent edition.**

What about investment potential? When you consider that **"THE JOUST"** is the first enameling project of its type ever done by anyone in a limited edition—that each was done by hand—that no two are alike—that the edition is limited to 100—the investment potential speaks for itself.

The price for "THE JOUST" is $750.00. Finished, framed size of each painting is 19″ x 16″ (plaque size 11½″ x 8½″). **"THE JOUST"** is matted both front and back with a beautiful fabric and encased in an opulent 22 carat gold leaf frame. A richly engraved title plaque is affixed to each frame. Every enamel is numbered and signed by Bétourné and accompanied **by a Certificate of Authenticity signed by Jean-Paul Loup and Jean Bétourné.**

If you wish to be certain of acquiring **"THE JOUST",** please mail the coupon below. We will send you a beautiful 8″ x 10″ photo of **"THE JOUST",** full particulars and an order form. **PLEASE DO NOT ENCLOSE ANY PAYMENT OR DEPOSIT.**

IMPORTANT: Because this edition is limited to 100, orders will be honored in the postmark order received.

© Jean Paul Loup, 1975

If you have any further questions regarding this remarkable offer, please call our Toll Free number 800-323-6866 Illinois Residents call Collect 312-366-4662.

Jean-Paul Loup
Editor of Art—Limited Editions

400 Lathrop Avenue
P. O. Box 216
River Forest, Illinois 60305

(312) 366-4662
(312) 366-1130
Telex 721-519 Loup Rifo

Please send me full particulars, the 8″ x 10″ color photograph and an order form for "THE JOUST".

NAME _____

ADDRESS _____

CITY _____ STATE _____

ZIP _____

Please do not enclose any payment or deposit.

We welcome: American Express, Master Charge, BankAmericard and Diners Club

By Gary A. Soucie

What's Uncle Sam doing with the islands he owns?

Though the largest proprietor of offshore land, the government lacks not only an overall plan but an up-to-date list of its holdings

Trees, sand and salt water form their own geometry on Wassaw Island, one of the few Sea Islands of

No one in the entire federal bureaucracy, it seems, knows just which islands Uncle Sam owns, which agencies administer them, how they are managed or to what uses they are devoted. Worse, no one seems to care. This cavalier neglect of our island estate is a strange and perplexing situation. After all, the New World was discovered by its islands; the first English colony was on Roanoke Island; the early defenses of our harbor cities were island forts; the voyageurs used islands as stepping-stones in opening up the continental interior.

The American delight in islands is recognized by realtors and by the developers of second-home resorts and retirement communities, but within the government only recreation planners are cognizant of that insatiable and perhaps atavistic need we have to be surrounded by water. And the evidence suggests that even the recreation planners wind up looking at islands simply because they happen to front on open water, not because the planners understand the special magic of islands *per se*.

All this is especially depressing if you are, as I am, one of those hopeless souls possessed by a galloping case of islomania. "An island always pleases my imagination," Thoreau wrote, "even the smallest, as a small continent and integral part of the globe. I have a fancy for building my hut on one. Even a bare, grassy isle, which I can see entirely over at a glance, has some undefined and mysterious charm for me." That undefined and mysterious charm is the very essence of islands, the elusive key to what makes them so special and fragile a part of our natural heritage.

The General Services Administration, the government conglomerate that is Uncle Sam's landlord, publishes a federal property index that is fully five times as thick as the Manhattan telephone directory, but it is impossible to tell from its entries which are island properties and which are not. Hoping to avoid having to contact *all* the federal agencies that might administer island properties, I got in touch with the Interior Department's Bureau of Outdoor Recreation (BOR).

Five years ago the BOR published *Islands of America,* the report on a recreational assessment of the nation's islands that had been ordered by President Johnson and the then Secretary of the Interior, Stewart Udall. I figured that the people who tabulated the national and state totals for numbers of islands, island acreages, and federal ownership figures must have arrived at them by adding up the figures I wanted.

Well, several exchanges of correspondence, numerous telephone conversations and a couple of meetings later, I can report to you that (a) the figures were not compiled by adding up agency figures, but from two years of poring over tax and property records in

Georgia that enjoy benign neglect at the hands of Man, owing to its status as a national wildlife refuge.

county courthouses across the land, (b) the island study team has been disbanded and scattered throughout the federal bureaucracy and the general populace, and (c) the boxes of property records and research data have been consigned to the oblivion of some government warehouse, no one seems to know just where.

Just for the heck of it, but knowing I was bound to fail, I asked a few agencies and departments to tell me what information they could provide about the extent and use of their island holdings. Let the Department of Defense's reply, written by Perry J. Fliakas, Deputy Assistant Secretary for Installations and Housing, stand for them all: "Unfortunately, DOD does not maintain records on its island holdings in a form that would readily facilitate detailed treatment of your questions." Aside from anecdotal material, then, knowledge about the extent of Uncle Sam's island estate is pretty much limited to what little can be gleaned from the statistical overview in the appendices to *Islands of America.*

From the BOR report we find that, excluding the main island of Puerto Rico, the three major Virgin Islands, Guam, Samoa, the Trust Territory, the five major Hawaiian Islands, and the three principal New York islands (Manhattan, Staten and Long), the United States has 26,325 islands that are 10 acres or larger in size, with a combined area of 28,643,834 acres. Not counting federal claims to any of the 911,929 island acres of unknown or disputed ownership, Uncle Sam owns 21,210,066 acres or 76.5 percent of the nation's island estate.

Before everyone gets excited, we had better subtract Alaska's figures, leaving us with 20,637 islands and only 7,493,627 island acres (including 875,673 acres in clouded ownerships), of which Uncle Sam owns just 1,033,500 acres or 15.6 percent of the island estate outside Alaska. Federal ownership by island, as opposed to island acreage, is unknown. Most islands have several owners, and even Uncle Sam rarely owns an island lock, stock and tide pool.

While the public island estate has grown somewhat since the report's appearance in 1970, the federal island estate outside Alaska is just a bit larger than Glacier National Park, itself only the seventh largest unit in the National Park System. A sobering perspective.

The federal island survey that produced *Islands of America* was ordered almost a decade ago, with an eye toward improving public access to islands and increasing the recreational development and resource preservation of the nation's island heritage. But that was during the more expansive days of the Great Society. When the report finally appeared, its findings and recommendations ran afoul of the new administration's policy of New Federalism, and was promptly shelved. A few of the report's recommendations have been realized with the establishment of the Cumberland Island and Gulf Islands National Seashores and the Apostle Islands National Lakeshore, but most have gone begging. As an example, the report recommended that the Sea Islands of South Carolina and Georgia be studied for national seashore or other prospective status, but only Wassaw Island, one of the smallest and wildest of the Sea Islands, has come into the public domain, as a national wildlife refuge donated to the government by The Nature Conservancy. Many of the others have fallen to subdividers or are in peril of imminent development.

The report's major recommendation, that national island trusts be established by joint federal and state action, with local and private participation, at Casco Bay and elsewhere along the Maine coast, the Platte River islands in Nebraska, the San Juan Islands in Washington, and the Elizabeth Islands and Nantucket and Martha's Vineyard in Massachusetts, has foundered on the rocks and reefs of federal inaction,

Inveterate patroller of the water's edge, the author has discussed beach erosion, the Great Dismal Swamp and salt marshes in earlier issues of SMITHSONIAN.

Photographs by George Silk

Northern Elysium: lichen-covered rock, salt spray and the scent of pine on Maine's Mount Desert Island.

and local resistance born of misunderstanding. On Martha's Vineyard the island trust proposal has become a major political issue, with the island's populace pretty much divided up into two warring camps.

Fortunately, some superb examples of our island heritage have entered the National Park System. Many of our national parks and monuments contain islands, and a few of them—Acadia, Isle Royale, Virgin Islands National Park, Channel Islands and Biscayne—for example—are inherently island preserves. Most of our national seashores and lakeshores are on islands or contain substantial island acreages: Fire Island, Assateague Island, Cape Hatteras, Cape Lookout, Cumberland Island, Gulf Islands, Padre Island, Apostle Islands and Sleeping Bear Dunes. Because islands have played such a key role in our nation's history, quite a few of them are administered as historic sites and monuments by the Park Service: island forts like Sumter and Jefferson and Frederica, Christiansted National Historic Site on St. Croix Island in the Virgins and St. Croix Island National Monument in Maine, Colonial National Historical Park on Jamestown Island, Virginia, and dozens more.

Too many of these park islands are accessible by car, but the National Park Service inherited most of the roads and bridges along with the islands themselves. Until dissuaded by public opinion, the Park Service tried several times to pave a thoroughfare down the roadless center section of Assateague Island National Seashore to connect the bridges at either end. Now it seems the Park Service may be considering, in violation of the natural principle that islands should be accessible only by boat, proposals for transportation across the marshes that separate Cumberland Island National Seashore from the Georgia mainland.

Whereas, in its oftentimes grim determination to pack as many people as possible into the parks, the National Park Service occasionally is given to making mistakes like that, the U. S. Fish and Wildlife Service, mission-oriented toward wildlife and habitat rather than people and pleasuring grounds, likes the remoteness and inaccessibility of islands. If you have a boat and want to land on Wassaw Island National Wildlife Refuge for a day's birdwatching or beachcombing, that's fine with the Fish and Wildlife Service, but they aren't going to help you get there.

Wassaw was donated to the National Wildlife Refuge System in 1969, a few years before Congress authorized Cumberland's inclusion in the National Park System. For all their geological and other similarities, these two Sea Island preserves are more dissimilar than alike, a reflection of the two agencies' disparate missions. While on Cumberland the Park Service is all abustle with land acquisition, facility planning and getting ready for the onslaught of visitors that will begin when the seashore is eventually opened to the public, on Wassaw nothing is happening. Except for a limited archery hunt each fall to control the deer population introduced onto the island by its former owners, the Fish and Wildlife Service is not doing anything in the way of habitat or wildlife management, no earth-moving or timbering or controlled burning or impounding of fresh water. Wassaw Island was given to the refuge system as a wilderness island and a natural wildlife refuge, and so it shall remain.

For the birds and seals

The National Wildlife Refuge System contains quite a number of islands that are for the birds and seals, where people are not allowed at all, places like Pelican Island, Florida (the granddaddy of all the refuges), Oregon Islands and Three Arch Rocks in Oregon, Flattery Rocks and Quillayute Needles in Washington, and the string of islands in the Hawaiian Islands National Wildlife Refuge. The Farallon Islands out beyond the Golden Gate are so difficult to land on that there is no record of any human visitation to the three northern island groups in the refuge.

The isolation and inaccessibility of islands is valued by some federal agencies for other, quite different reasons. The old War Department valued islands for their relative impregnability to enemy invasion and attack when properly fortified. Air power, long-range artillery, and ballistic missiles have changed the character of warfare, so islands are no longer quite so important to national defense, except for those that place our strategic bombers and warships closer to their tar-

Subtropical blizzard: Royal terns swarm on Pelican Island in Florida, the first of our wildlife refuges.

gets. The Defense Department still uses islands, not only as bases (many a Marine recruit has suffered the rigors and isolation of island life on Parris Island, South Carolina), but also for target practice, an abominable use of islands. San Clemente Island in California's Santa Barbara Islands, Bloodsworth Island in Chesapeake Bay and Vieques Island, Puerto Rico, are among the islands used for target practice by aerial and naval bombardment of the armed forces.

Some of the most famous and notorious prisons have been on islands: Elba, Devil's Island, Van Diemen's Land, Norfolk Island, Alcatraz. San Francisco Bay's Alcatraz Island has seen multiple government duty as harbor fortress, as aid to navigation (in 1854 the Pacific coast's first lighthouse was built on the island), and from 1934 to 1963 as federal penitentiary. Now "The Rock" is administered by the National Park Service as a historic part of Golden Gate National Recreation Area.

The federal government still operates one penitentiary on an island: McNeil Island in Puget Sound. Islands originally were favored prison sites because they were more difficult to break out of; but that was before electronic security systems and other penological technologies made prisons pretty tough to bust. Nowadays? According to one spokesman in the Federal Bureau of Prisons property management section, "I'm sure there is *some* deterrent in that cold water, but whether it does make it harder to escape is pretty hard to answer. We have had some break-outs from the island penitentiaries." Island prisons are more expensive to operate than mainland prisons and the current trend in federal penology is away from massive prisons toward smaller institutions, so the days of the island prison are numbered.

Island living is not all basking in the sea breezes and strolling the beaches. It can be lonely and difficult, especially during the long winters or when weather cuts off contact with the outside world. The Coast Guard, and before it the Lighthouse Service, probably had more people stationed on more islands than any other federal agency. Lighthouse-keeping in America began in 1716 on Beacon (now Little Brewster) Island in Boston Harbor. In the 1890s the keeper of Minots Ledge Light in the Atlantic off Massachusetts wrote in his diary, "The trouble with our life here is that we have too much time to think." In 1876, to help relieve monotony and cabin fever, the Lighthouse Service began circulating 40-book portable libraries among its most isolated light stations.

After the Coast Guard took over the operation of the nation's lights in 1939, lighthouse-keeping began changing in character, and now the lights are being automated as quickly as possible and the wickies are disappearing from the American scene.

Emigrants fleeing the squalor of Europe's cities often had to endure an even greater hardship before being admitted to the promised land of America. The quarantine stations along our coasts were ghetto islands of pestilential misery. Two of the islands pressed into grisly quarantine service during the yellow fever epidemics of the 19th century are now doing happier duty as wildlife refuges. Snake Island on Florida's west coast is now part of Cedar Keys National Wildlife Refuge. Georgia's Blackbeard Island National Wildlife Refuge, which had been acquired by the federal government in 1800 for cutting ships' timbers, still bears a grim reminder of its worst days: a crumbling brick cremation oven.

While not exactly a quarantine station, Plum Island in eastern Long Island Sound is a place dedicated to

Like a vast serpent, Anacapa arches up from the Santa Barbara Channel, a lighthouse perched on its back.

the containment of disease. Here the Department of Agriculture operates its Animal Disease Laboratory where USDA scientists do research on 30-odd animal diseases.

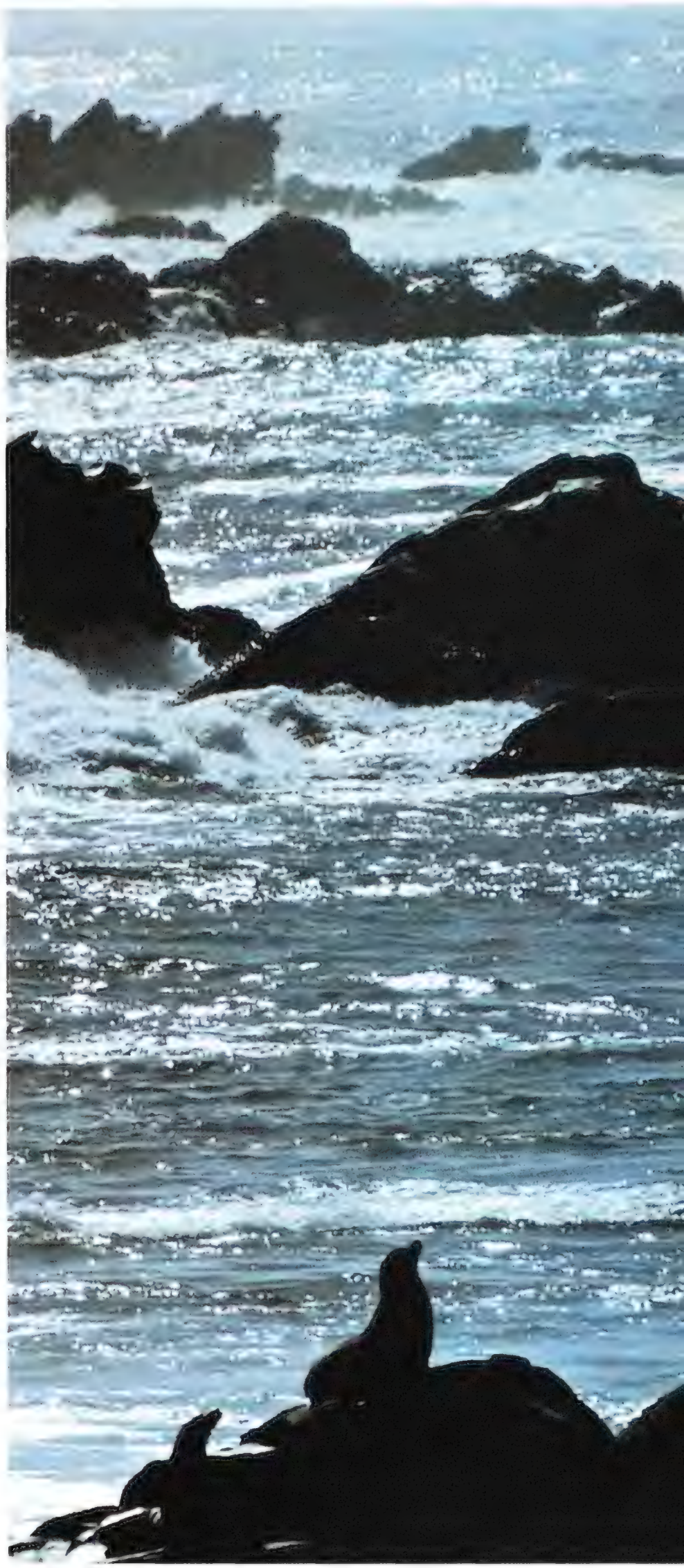
The Plum Island laboratory is a hermetic environment with exhaust air filtered and liquid wastes sterilized before leaving the buildings, and solid wastes incinerated within. For specified periods of time after leaving the island, the 330 lab employees are prohibited from coming into contact with susceptible animal species or their premises.

Federal island holdings frequently pass from one agency to another, and joint tenancy is more the rule than the exception. At Cape Hatteras National Seashore, for example, Hatteras Island is divided between the National Park Service, the Fish and Wildlife Service, the Coast Guard, the Navy, town and county governments and private landowners. The Coast Guard is a frequent co-tenant of islands because of its hundreds of lighthouses.

Strange bedfellows

Sometimes joint federal tenancy makes for strange bedfellows. On Merritt Island, Florida, the National Aeronautics and Space Administration's John F. Kennedy Space Center shares common boundaries with the Fish and Wildlife Service's Merritt Island National Wildlife Refuge. It has been a happy, if unlikely, collaboration, with astronauts and alligators, launch pads and loggerheads coexisting in harmony. (There is evidence that the technology has inhibited the flow of saltwater, to the disadvantage of the dusky seaside sparrow, now much reduced in numbers.) In January of this year Canaveral National Seashore was created, incorporating the small section of Merritt Island and most of the barrier beach to seaward, bringing the National Park Service into the picture as well. Add to these the Corps of Engineers, which maintains the Intracoastal Waterway that passes through seashore, refuge and space center, as well as all the private beekeepers and orange growers who operate on the island under lease permits, and you have quite a mixed bag of islanders.

Not all the joint tenancies are happy ones. The underground testing of H-bombs on Amchitka Island could hardly be called a resource-sensitive use of the Aleutian Islands National Wildlife Refuge. The Corps of Engineers' dynamiting of New Drum Inlet through the Core Banks south of Cape Hatteras messed up Cape Lookout National Seashore even before the National Park Service had taken it over. Within Puget Sound's Smith Island National Wildlife Refuge the U.S. Navy somehow has managed to get permission to use Minor Island as a practice bombing range,



In the evening sun, sea lions clamber up the slippery rocks of southern California's San Miguel Island.

"with stipulations for protection of wildlife values"!

The defense agencies don't always wear the black hat, though. Sometimes it is the other way around. Charles Montgomery, of the Bureau of Outdoor Recreation's surplus property office, says the bulk of island and other properties converted to recreational use in recent years under the Legacy of Parks program have come from the defense agencies. "And not too reluctantly, either," he adds. For example, part of the federal property on Santa Rosa Island in Gulf Islands National Seashore is on an Air Force base. "But when Defense wants to hang onto a property," Mr. Montgomery says, "there is nothing in the world that can move them." It took years of bitter infighting before the Air Force finally agreed earlier this year to give up Matagorda Island, a bombing range and officers' hunting and fishing camp on the coast of Texas. Now the conflict may be between the Fish and Wildlife Service, which wants to give part of the island to the whooping cranes by adding it to the Aransas Refuge, and the state of Texas, which wants to turn it over to bathers and beachcombers.

Actually, Congress has been a bigger stumbling block than the Pentagon. Sometimes when DOD has expressed its willingness to declare a piece of property surplus, making it available for transfer to Fish and Wildlife or the Park Service or a state agency, the Armed Services Committees have vetoed the transfer.

At least one military island is man-made. Treasure Island, a naval training station in San Francisco Bay, was constructed of fill for the Golden Gate International Exposition in 1939. Dredge-maintenance of navigable waterways by the Corps of Engineers has resulted in the creation of numerous dredge-spoil islands, some of which have become rookeries for shore and wading birds. The bird habitat of Tybee National Wildlife Refuge on Oyster Shell Island (sometimes called Horseshoe Shoal), near the mouth of the Savannah River, has grown from the single acre to which the Fish and Wildlife Service holds title to about 100 acres, thanks to Corps dredge-spoil disposal.

Planned creation of artificial islands may someday relieve natural islands of some of the fiercely competitive pressures they now bear for residential, industrial and mass-recreational development. Senator Ernest F. Hollings, chairman of the Senate National Ocean Policy Study and author of the Coastal Zone Management Act, suggests that artificial islands might be constructed at costs comparable to those of acquiring and developing prime coastal land areas and be devoted to a multiplicity of uses: "oil and liquid natural gas ports, refineries, general cargo ports, waste processing and recycling facilities, jetports, siting for bad-neighbor industry generally, high-intensity ocean recreation, fishing ports and fish-processing plants, mariculture, electric power stations, and sand and gravel mining." The draft report of the Long Island Sound Regional Study, released late last year, noted the Sound's virtual inaccessibility to the public and recommended using dredge spoils and construction waste to build artificial recreational islands.

That's the way it is with Uncle Sam and our islands: win a few, lose maybe more. Under the mushrooming pressures of Project Independence, with its emphasis on offshore oil and energy facilities in the coastal zone, losing is going to come even easier in the future. At a time when society is only just beginning to slouch like Yeats' "rough beast" toward land-use planning generally, perhaps it is asking too much for planners and legislators and administrators to recognize that island management is not synonymous with land management, that islands are something more than just pieces of real estate with finite boundaries, that islands are very special places deserving of special care. But that is what is needed. We need to bring back into the public domain more of our islands before they are lost forever to heavy-handed management for purposes that could have been served as well elsewhere, and we need to take better care of them once we have got them for more appropriate uses.

Knowledge is the prerequisite to intelligent action. As Abraham Lincoln once observed, we would have a better idea of where we are going if first we knew where we are. We inventory and catalog all our other natural resources—timber and agricultural lands, fuels and mineral ores, water and wildlife. Our island resources deserve as much.

Coexistence: Ibis fly past rocket gantry to adjacent wildlife refuge on Florida's Merritt Island.

On parade, the CAF displays, from upper left of strip: P-39 Airacobra, P-40 Warhawk, P-38 Lightning; Navy's Dauntless dive bomber, Wildcat and Hellcat fighters, Helldiver, Avenger and PBY Catalina; then giant B-29, two P-47 Thunderbolts, two B-25 Mitchells, B-17 and transport version of B-24.

By Joseph E. Brown

'Confederate Air Force' soars with nostalgia

What started as a Texas-style flier's hobby has matured into a splendid collection of World War II combat planes—all flyable

Hoked-up "Rebel" identification patch recalls lighthearted origin of the now serious CAF.

One blistering midsummer Arizona day in 1959, a Texas crop duster named Lloyd Nolen made a discovery that first angered him, then sent him into a fit of despair. A flight instructor during World War II, he had come to Litchfield Park Naval Air Station, near Avondale, to bid on an F8F Bearcat—a famous Navy fighter plane of World War II—declared surplus and put up for auction. He had been developing an interest in such old-timers since buying a P-40 Warhawk fighter eight years earlier.

"I got the F8F," Nolen recalls, "but what I saw at Litchfield nearly made me cry. Dozens of other World War II aircraft—fighters, bombers, patrol planes, trainers—were being stripped of their instruments and other . . . parts, chopped up by bulldozers, then heaved into a huge smelter to be destroyed forever."

Angrily, Nolen termed what he saw "a disgrace, a waste, and an affront to history." Returning home to Mercedes, Texas, he made a series of telephone calls around the country, only to hear the story repeated: No substantial effort had been made anywhere to save, for historical purposes, a cross section of the approximately 300,000 aircraft turned out by around-the-clock American factories from 1939 to 1945 for combat in the skies over Europe and the Pacific. The Air Force had established a museum on the Wright-Patterson Base at Dayton, Ohio, and begun an intensive search for World War II aircraft. The Navy, in 1964, set aside some of its World War II planes as museum pieces at Pensacola, Florida. The Smithsonian Institution had acquired others to restore for display in its new Air and Space Museum, scheduled to open in 1976 in Washington, D.C.

But aside from these efforts, most World War II-era airplanes were facing extinction.

The end result of Nolen's anger and subsequent activities today sprawls across a sweeping ramp beside the airport runway in Harlingen, Texas. There, fully restored and called the Confederate Air Force, wearing combat paint and all in flying condition, are lined up no less than 60 aircraft of World War II. On that apron is at least one example of all the major American aircraft that saw combat during the war: a representative cross section of the last and most sophisticated generation of propeller-driven aircraft before the dawning of the Jet Age.

They are the classic Boeing B-17 Flying Fortresses, the twin-fuselage P-38 Lockheed Lightnings, the rear-engined P-39 Airacobras, the aircraft carrier-borne Grumman F6F Hellcats. One of the most popular planes on display is the North American P-51 Mustang, the fastest (437 mph) American fighter built in World War II, which escorted Allied bombers over eastern Germany in the later days of the war. Allied and enemy nations have not been neglected; the roster

Squadron art, applied to nose sections of combat aircraft along with mission symbols, formed

includes a British Spitfire and a De Havilland all-wood Mosquito light bomber, four German Messerschmitts, and four replicas of Japanese Zeros. They make up what is perhaps the most unusual aviation organization in the world: the so-called Ghost Squadron of the Confederate Air Force.

The underlying motives of the CAF are far more serious than its name would imply. "We called ourselves 'rebels' in the beginning because we were rebelling against the destruction of aircraft that should have been preserved," Nolen explains. "We started the CAF tongue-in-cheek, a sort of hobby, never dreaming it would eventually grow into a group with more than 1,000 members, a budget of more than $200,000 a year, with support that has been coming from every corner of the country."

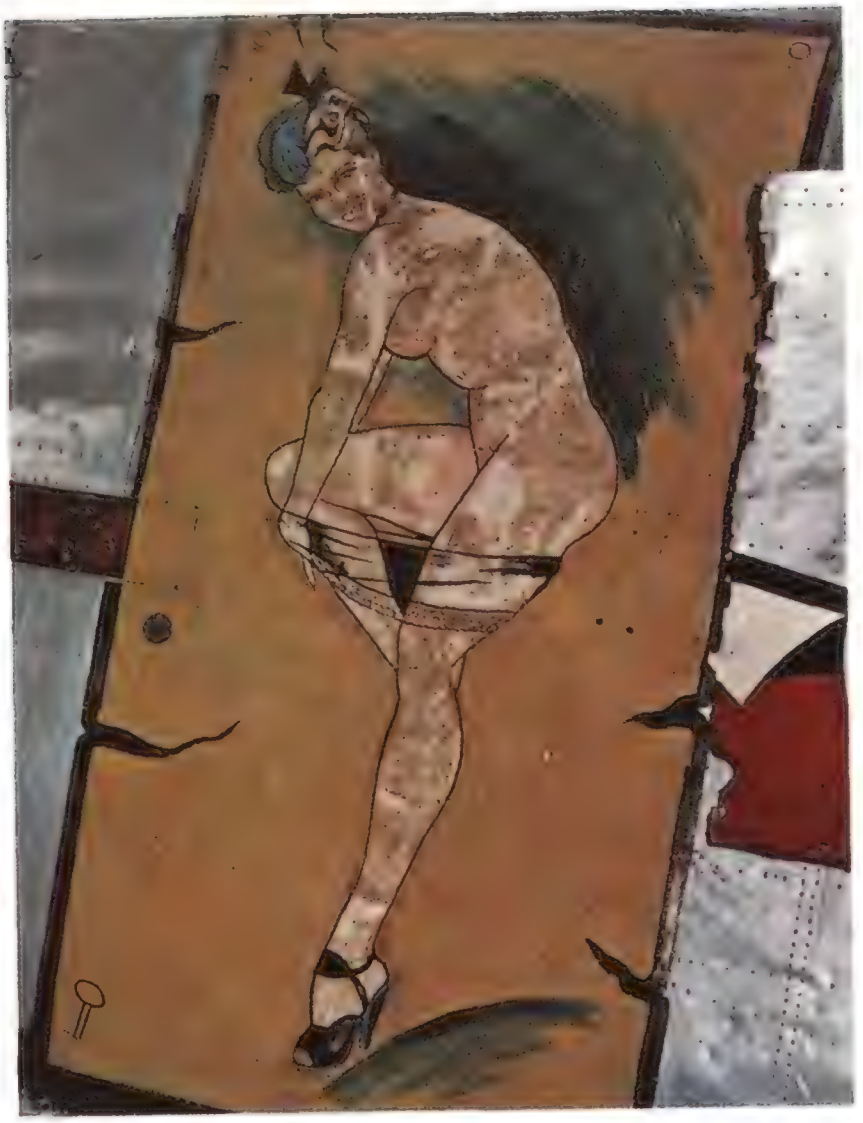
Compared to today's generation of sleek, swift, whisper-smooth jets, the 1939-45 warbirds were, admittedly, among the noisiest, most waspish, nerve-fraying machines ever to roll off an assembly line.

Even when idling, for instance, the backfiring snort of the B-25's twin 1,700-horsepower engines suggests imminent Armageddon, and the flaming belch from its exhaust manifolds seems calculated to singe the fur of a jackrabbit 50 yards away or, failing that, to overcome the poor animal by smoke inhalation. Frank Tallman, the movie stunt flier who assembled an entire squadron of B-25s for *Catch-22*, notes wryly that the aircraft's design "is more in keeping with Zazu Pitts than Rita Hayworth, and the 'greenhouse' in the nose may well have been designed by the same man who laid out the aviary at a zoo."

The B-25's close cousin, the Martin B-26 Marauder, was nicknamed "The Widowmaker," a backhanded

Mr. Brown discussed earthquakes in our December 1973 issue; he is former editor of Oceans.

the soft-core pornography of those long-gone days. The CAF offers a generous selection to buffs.



Crew chiefs often had their names on their planes, but some pilots considered this "asking for it."

tribute to its temperamental handling characteristics. The B-17, despite its glowing press clippings, was a sitting duck for frontal attacks until its armament was modified; it burned easily, and "had enough systems troubles to give the plumber's guild a nightmare," says Tallman. And as unsettling to the pilots who flew it was the vaunted P-39 Airacobra; more irritating than the inconvenience of the drive shaft leading between the pilot's legs from the uniquely mounted rear engine was the constant specter of being crushed to death should a crash landing occur.

Despite their cantankerous and sometimes frightening nature, however, World War II aircraft continue to fascinate fliers and nonfliers alike.

"No pilot," says Tallman once again, "can help being very excited by the performance characteristics of World War II airplanes. Their rate of climb, their ability to do aerobatics in tight situations, their responses—it's quite a different world from that of either the slower aircraft of World War I or the high performance jets of today. They didn't have the glamor of World War I planes, but they were a damned exciting generation of aircraft."

Last year, more than 3,000,000 Americans attended CAF air shows around the country; an estimated 25,000 showed up in Harlingen for the 11th annual homecoming show alone. From its original membership of less than a dozen, the CAF has expanded to about 1,000, including two U.S. Senators, four astronauts, assorted businessmen and, as might be expected, a wide variety of pilots.

After Nolen acquired his P-40 in 1951, and watched as the Litchfield Park smelters consumed their prey, the underlying motive for CAF suddenly hit him: If possible, why not acquire as many different types of World War II fighters and interceptors as funds would permit, restore them to flying condition, and put them

A flight of three T-34s—postwar trainers—used by the CAF for exhibitions follows

a red Decathlon, a type designed for aerobatics, which proves capabilities by flying inverted.

Confederate Air Force founder Lloyd Nolen stands underneath the spinner of a P-51—the famed Mustang.

all under one hangar roof somewhere in Texas?

"Like many pilots and aviation buffs, fighters appealed most to me," he explains. "And the fighters of World War II were classics in every way. That's all we had in mind in the beginning—fighters of every description." He and two partners immediately began to dream of owning a Lockheed P-38 Lightning, considered one of the fastest of the World War II fighters, if of limited maneuverability.

"But as we checked around the country, we discovered that out of the more than 9,000 P-38s built, less than a dozen survived."

Nolen finally found a restorable P-38, next added an F4U Corsair, the single-engined Navy fighter that first saw service with the Marines on Guadalcanal in 1943 and was still active ten years later in Korea—the longest life of any American fighter. "The Corsair was typical of the aircraft the CAF was acquiring, in terms of both its unique history and the way we acquired it. During the Korean War, a Corsair—that's a propeller-driven aircraft, remember—was credited with shooting down a MiG-15 jet; during World War II, a Navy pilot named Klingman, discovering his guns jammed, destroyed a Japanese photo plane by moving in close and sawing off its elevators with his own prop! Like most of our other planes, though, the Corsair had become an endangered species by the mid-Fifties, and we had to search long and hard before finding a suitable one, deserted on a small airstrip in Arizona."

Even scarcer was the P-47 Thunderbolt, at 13,000 pounds the heaviest single-engined fighter ever built in the United States. During World War II, almost 16,000 Thunderbolts came off the production lines, flew more than a half-million combat sorties, dropped 132,000 tons of bombs. The P-47 also added considerably to aviation technology; in 1943, Colonel Cass Hough approached Mach 1, speed of sound at sea

level, in a dive over Bovington, England. But by the late 1950s, not a single "Jug," as they were nicknamed, could be located in the United States.

A puzzled Nolen was soon to learn the reason: All P-47s that had survived the scrap pile had been sold in Latin America. "A couple of us flew down there," Nolen remembers. "I guess they thought we were crazy, asking to buy back a bunch of planes that by the book were years obsolete. But we were convincing arm-twisters; we came back from Guatemala with one P-47 and one member bought six others in Peru."

One day in the mid-1960s, a stranger approached Nolen at Mercedes. You can imagine how stunned we were when this guy asks, "You fellows interested in buying a bomber?"

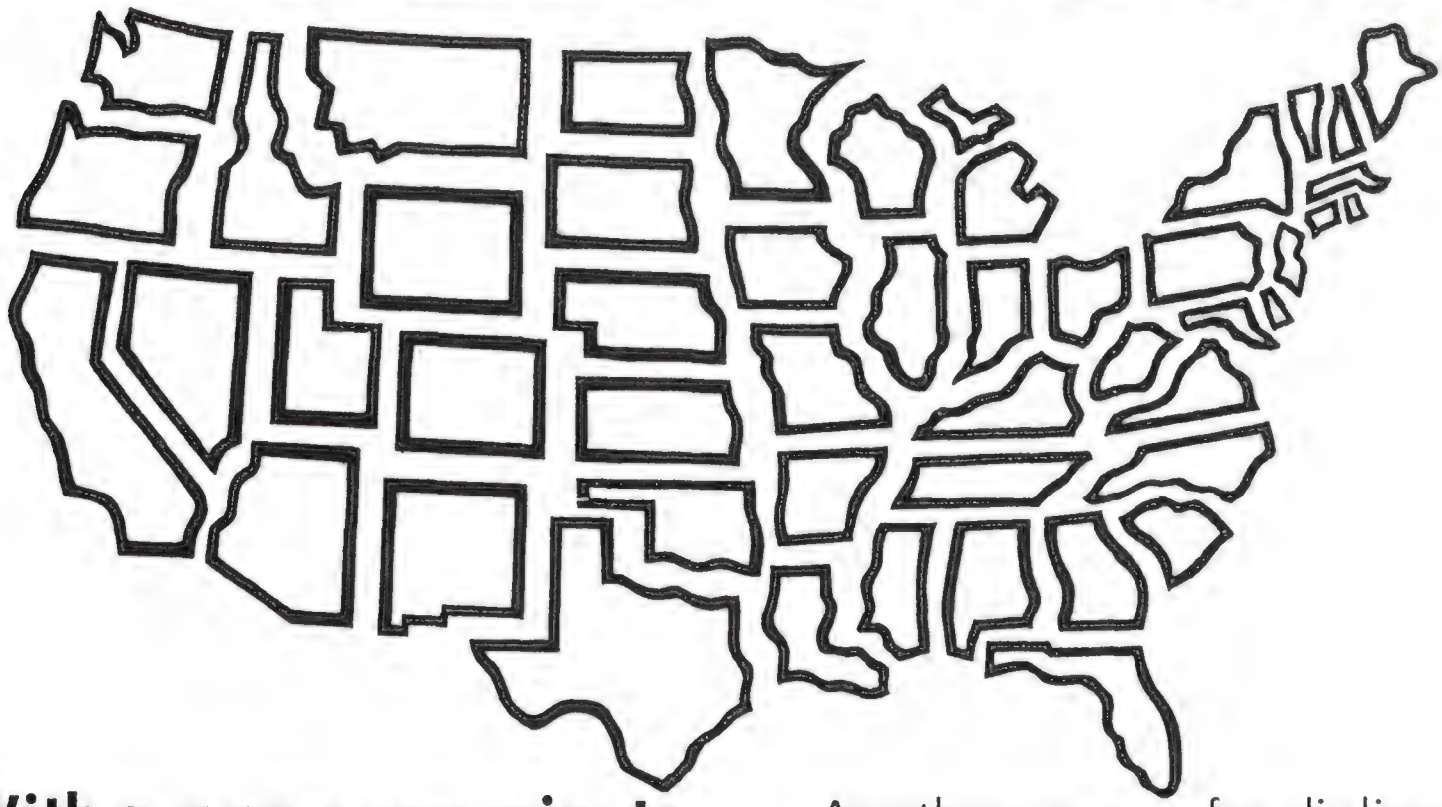
The first bomber—a twin-engined B-25 Mitchell—became the nucleus of what today is an entire wing of the CAF; it includes a B-17 Flying Fortress, a B-24 Liberator, three B-25s, a B-26 Marauder, an A-20 Havoc, an A-26 Invader and the largest, longest-ranged propeller-driven bomber built in World War II, the B-29 Superfortress.

Restoring the B-29 cost more than $50,000, indicative of the kind of high finance that is constantly required to keep the CAF's fleet of aircraft alive. Member "colonels" pay dues of $100 each per year. Individuals "sponsor" many of the airplanes, splitting the tab for acquisition, restoration and maintenance. The CAF covers the rest from voluntary donations. Its highly popular annual Harlingen air show and its small but historically accurate flight museum at Rebel Field show no profit for the organization.

"The way the 'volunteer money' comes in sometimes surprises even me," notes Lloyd Nolen. "None of us 'colonels' are wealthy, we're all working people with businesses to run. But whenever we put out a plea for money, we hope there's somebody out there who hears us."

Thunderbolt and CAF-marked Lightning form up on wing of Navy Dauntless with perforated dive brake. The traditional red spot in star was erased early in war to avoid confusion with Japanese "meatball."

Now 22¢ OR LESS each.



With our new one-minute weekend rate, it only costs 22¢ or less, plus tax, to call any other state except Alaska or Hawaii, if you dial direct.

That's 22¢ or less for the first minute and only 16¢ or less for each additional minute.

Another reason for dialing direct is the big difference between operator-assisted and dial-direct rates. Compare the prices in the rate chart below. Tear out the chart and keep it near your phone. It will help you control your Long Distance costs.

NEW RATES FOR COAST-TO-COAST INTERSTATE CALLS

DIAL-AND-SAVE ONE MINUTE RATES

FULL RATE	35% DISCOUNT	60% DISCOUNT
WEEKDAYS	EVENINGS	NIGHTS & WEEKENDS
Monday-Friday 8 a.m.-5 p.m.	Sunday-Friday 5 p.m.-11 p.m.	Every night 11 p.m.-8 a.m. Saturday— day and night Sunday— day and night except 5 p.m. to 11 p.m.
First Minute **56¢**	First Minute **36¢**	First Minute **22¢**

Additional minutes cost less than the first minute.

Dial-direct rates apply on all interstate calls (excluding Alaska) completed from a residence or business phone without operator assistance. They also apply on calls placed with an operator from a residence or business phone where dial-direct facilities are not available. For dial-direct rates to Hawaii, check your operator. Dial-direct rates do not apply to person-to-person, coin, hotel-guest, credit card or collect calls, or to calls charged to another number, because an operator must assist on such calls. Rates quoted do not include tax.

OPERATOR-ASSISTED THREE MINUTE RATES

STATION-TO-STATION
Full rates apply at all times
First 3 minutes
$1.95

PERSON-TO-PERSON
Full rates apply at all times
First 3 minutes
$3.55

Additional minutes same as dial rate. Applicable discounts apply to additional minutes during "Evening" and "Night & Weekend" periods.

Cut this chart out and put it in your phone book.

By Clarissa K. Wittenberg

An intimate record of how it was in yesterday's Harlem

Starting out at 14, in 1900, James Van DerZee painstakingly constructed a gallery of middle-class blacks who made their own society

The Van DerZee men, Lenox, Massachusetts, 1908, a time when there were few black families in the town. Proud father John is flanked by James, on his far right, and by two younger sons, Walter and Charles.

For almost three-quarters of a century—he is now 89—James Van DerZee has with rare artistry compiled a sweeping photographic survey of a way of life among black people of Eastern America, and particularly Harlem, that is unique and irreplaceable. It is both a historical record of archival value and an achievement of disciplined and feeling art. Van DerZee is only now beginning to be recognized as one of the notable photographers of middle-class people of the country.

Regenia A. Perry, Associate Professor of African and Afro-American Art at Virginia Commonwealth University in Richmond, in the introduction to a portfolio of Van DerZee's photographs (published by Graphics International Ltd., Washington, D.C.) from which this article is largely illustrated, says:

"The message of Van DerZee's photography is a universal one. To the black viewer he provides revealing glimpses of the people and activities in America's most unique black community, which are bound to instill an element of pride and self-respect. To the nonblack viewer Van DerZee's photographs represent Afro-Americans from a dignified, graceful, and impressive point of view which should dispel existing misconceptions. Above all, Van DerZee is a photographer of people and his works are both raceless and timeless." Says Dr. Perry, "Van DerZee's photographs are labors of love both for the profession and for his people."

Clarissa K. Wittenberg is a free-lance writer and an editor of the new Washington Review of the Arts.

Although he photographed the people of rural Virginia around the turn of the century, and of Lenox, Massachusetts, where he was born, his photographs of Harlem—an unparalleled historical and social record—draw the most attention. Harlem is unique. To describe it as a section of Manhattan about five miles square in size, with almost a half-million black residents, is to miss its essence. Harlem is the most significant black community in the United States. It is a cultural capital. There is a myth of Harlem that is greater than Harlem itself.

Van DerZee has been uncommonly able to capture both the people who helped to shape the myth and the ordinary citizens who made up the underlying community. His photographs are unusual, but in many cases his subjects were not. All across the country, wherever black families live, subjects such as his may be found in family scrapbooks. Tuskegee Institute year-

Wedding day, Harlem, 1926. The superimposed image of the little girl in the foreground is an example of Van DerZee's interest in technique and experiments in multiple-image photography.

books show many women as lovely as his, many young men as dignified and proud. His work, however, has the considerable added dimension of his creative ability and his high standards. Van DerZee's professional attitude, his careful preservation of his work, the dating and signing of each glass plate and negative, have contributed to the development of a valuable historic record of the heart of a society within a society.

Van DerZee was born in 1886 in Lenox, Massachusetts. His father had become the sexton of the wealthy Trinity Church and his parents had moved there from New York where they had served as butler and maid to General Ulysses S. Grant.

James was 14 when he saw an advertisement that would change his life. A camera was offered as a premium to anyone who could sell 20 packets of perfume. His mother and his aunts bought the sachets and he waited expectantly for the camera. Finally several packages arrived containing a camera, glass plates, clearing solution and developer. Two cardboard boxes covered with wax were to serve as trays. Van DerZee learned the directions by heart, but was never able to obtain a picture. Later he bought a better camera and his career began.

In 1906 he moved to New York and soon noted that

In 1925, Van DerZee brought his equipment out and combined in this panorama two of

During a family visit to Lenox, in 1909, Van DerZee composed this portrait of his wife and child.

An affluent side of the Harlem of 1938 is shown in this study of an elaborately furnished apartment.

his major interests, his love of children and of community life in the special place called Harlem.

unless the newspaper said "elevator work," "porter" or "waiter," men of his color would not be hired. He played piano and violin with Fletcher Henderson's band. The income was unreliable and he found a job at $5 a week as an assistant in a department store photographic concession. He left in 1916 to open his own studio on 135th Street in Harlem.

Although he took pictures for hack licenses, school graduations, weddings, funerals, lodges and clubs, he gave each commission serious attention. He spent hours on many sittings and his pictures of groups and individuals reflect this care. Everyone came to him, scholars who needed portraits for their books, entertainers, politicians and sports figures. The churches of Harlem were valuable customers. He was often

Van DerZee was a familiar figure in the busy streets of Harlem, lugging his cumbersome equipment on assignment or in search of outstanding subjects. Here, he caught classic expression of the Jazz Age.

Daddy Grace, one of Harlem's charismatic religious leaders, posed frequently for the Van DerZee lens.

In Harlem, in 1915, Van DerZee made this portrait of his cousin, Suzie Porter, dressed for the opera.

Lenox, Massachusetts, 1905—a quiet town in a gentle time; a lady sits for a matriarchal portrait.

A Garveyite family, Harlem, 1924. Marcus Garvey led a movement calling for return of blacks to Africa.

"Harlem Renaissance" of Twenties and Thirties was mainly literary, but it was also a time for vibrant theater, musicals, nightclubs, as exemplified by this lovely dancer, on left, and the actor, above.

called to take pictures of their mortgage burnings, their dedications and their ministers, charismatic figures such as Daddy Grace and Father Divine.

Van DerZee took his camera and his plates out into the streets and shot pictures of children at play, of boys racing for a water wagon on a searing hot day. He went to barber shops and ladies' hair salons at teatime.

Van DerZee's portraits of women are particularly beautiful. "Women . . . women . . . what can I say . . . a lot of beauty." They posed in their best dresses (often straight from Paris), their hair arranged, their eyes glowing. One beauty came before a costume party gowned entirely in crepe paper. Although some were posed in the studio, many were photographed in their own homes, giving us an unusual glimpse of their lives.

Fame came late to Van DerZee and he accepts it with some amazement and good grace. He never made much money, he took too many pictures for the joy of it, gave too many away. He was working almost in isolation, doing mail-order restoration of old photographs, when Reginald McGhee, then doing research for *Harlem on My Mind,* an exhibit at New York's Metropolitan Museum of Art in 1969, walked down Lenox Avenue and saw his window filled with old photographs.

Soon afterward, McGhee and Charles Inniss obtained a grant from the New York State Council on the Arts and founded the James Van DerZee Institute Inc. to promote Van DerZee's work, as well as that of other black photographers.

Van DerZee has lived his life with the people whom he photographed, grieved over their funerals, and celebrated their weddings. His record of Harlem is extraordinary, all of his work important in documenting a vital part of America's history.

"It's a hard job," he says philosophically, "to get the camera to see it like you see it. Sometimes you have it just the way you want it, and then you look in the camera and you don't have the balance. The main thing is to get the camera to see it the way you see it."

Although he made "calendar" pictures to order, this 1923 study was an exercise in pure composition.

Around the Mall and beyond

Here we are in Melbourne, nearly 11,000 miles from the Mall, and Bliss Schumann has only blown her whistle twice. Bliss is administrator of the Smithsonian foreign study tours. It is a job that demands a broad range of human characteristics: regal charm, aggression, gentleness and brass—a mixture of kindergarten teacher and Marine Corps drill instructor.

Bliss, an imposing lady with a perpetual tan, fills the bill. "Hurry up, Margaret," she is apt to say. "Not that bus, Blanche. . . . Do you really want to stop for a picture now, Mary? . . . Damn it, there goes Arthur again."

And finally, as a last resort, a blast on the whistle she wears around her neck.

Thus Bliss Schumann has shepherded her flock of 28 concerned and interested sightseers from the Air New Zealand desk at Los Angeles International Airport to Papeete, to Auckland, to Sydney, to Canberra, and now here. They have rested in the best hotels in town. They have downed the choicest meals available. And they have had their curiosity about strange places at least partly satisfied.

They circled Tahiti by bus, noting where the black beaches occur, and why. They watched Polynesian dancers and understood why the crew of HMS *Bounty* were ripe for mutiny after seeing the same thing. They felt the emotional impact of a concert at Sydney's soaring opera house, toured the harbor by boat, ate barbecued steaks and sipped red wine on an island, probed the workings of the Australian Parliament, saw a very large flock of sheep rounded up by four dogs and watched one sheared—with an extra lesson about how the wool is classified. They have visited gardens and sanctuaries, discovered how a eucalyptus may survive a brush fire, watched a lyrebird display for his mate and seen a platypus dabble for food on the bottom of a pool.

People all over the world talk the same language about the DC-10: "I like it."

Chicago...
"I like it."

Rome...
"Veramente fantastico."

If you've already enjoyed flying on a DC-10, you've shared a pleasant experience with millions of other people.

There's more to come, as they say in the ads. Tomorrow night, as I write this, Bliss will chivy her charges aboard yet another aircraft for a flight to New Zealand, where she will magically produce for them glaciers, boiling pools, Maori villages, fjords, forests and city streets—all the while getting them bedded down and ministering to their needs.

"No sweat," says Bliss, whose voice resembles that of TV's Maude. "This is a good group. You ought to see some of the difficult ones." And she twirls her whistle, absentmindedly.

Most of the Smithsonian foreign study tours (see p. 105) are organized in an office in the Castle where the concept is suggested, debated, approved and produced. Bliss makes use of the best local tourist facilities in each area her charges visit. This means that there are always local guides to flesh out the bare bones that the tour's lecturer—a special appointment for each trip—provides.

Once the group is recruited, with vacancies filled and bookings made, Bliss begins fussing about baggage tags (all bright yellow with the Smithsonian sunburst in blue) and lists of what to bring (cold remedies, extra prescription glasses, tissues, suntan lotion).

Bliss Schumann, center, in Tunis.

Bliss Schumann has been doing this sort of thing for years, for she was a travel agent long before she signed up on the Institution's staff. She gave up her own two-year-old agency and joined the Smithsonian in 1971, three years after the foreign study tour program was conceived by Dr. Richard Howland. She obviously loves her job and, as far as this close observer is concerned, she is better at it than anyone else. She arranges about nine Smithsonian tours a year, and is scheduled to lead an extraordinary five herself in 1975. She has been everywhere except Indonesia and India. These she wants to see. Some of the tours are ocean-going cruises, and they are perhaps the best of all, once the lines are cast away. She has a firm appreciation of Smithsonian tourgoers: "They come to learn, not just to see," she says.

But they are a freewheeling bunch of students not easily organized. Bliss admits that her best moment comes after the day's excursion is done and she is

Copenhagen... "Den er skøn."
Frankfurt... "Ein phantastisches Flugzeug."
Dakar... "J'adore."
New York... "I like it."
Tokyo... 好きですね
Paris... "J'aime beaucoup."
Hong Kong... 我中意
Caracas... "Me gusta."

Each day, more than 75,000 travelers fly a DC-10 to more than 120 cities in 67 countries. In many languages, they say they like the spacious, quiet comfort of the DC-10. So, ask your favorite airline or travel agent to book you aboard the DC-10—the choice of 34 airlines.

MCDONNELL DOUGLAS

For people who are still individuals...

the Irish country hat

Each Irish country hat is handcrafted with pride by skilled artisans on the wild, western coast of Ireland. These hats are created by individuals, not production lines, and are designed to become an extension of your own personality.

Benedict Boullet, Paris, France

Shape your Irish hat to suit yourself.

The style of your hat can say a lot. That's why the Irish hat leaves the final shape up to you.

The hand-woven tweed is extra thick, and fully lined in the crown. It sheds rain, protects from the wind, and can give you a comfortable shade from the sun.

Peter Christian, London, England

Irish country hats are made exclusively for Norm Thompson, and come in distinctive gray or brown tweed mixes. Sizes 6½ to 8. Two for $31.00. Each $16.00.

You have full return privileges.

Norm Thompson Dept. S-J
1805 N.W. Thurman
Portland, Ore. 97209

Order TOLL FREE anytime 800-547-6712
(excluding Oregon, Hawaii & Alaska)

Irish Hat(s)	Qty.	Size	Brown	Gray
Men's 6½-8				
Women's 20¼-25				

☐ Check enclosed ☐ BankAmericard
☐ Master Charge

Card #_____
(Please include all raised letters and numbers)

Signature X_____
☐ Send FREE catalog. "Escape from the Ordinary"®

Name_____
Address_____
City_____
State_____ Zip_____

tucked into a quiet corner of the hotel bar, happy in the knowledge that no one was left in the lyrebird enclosure and that, judging from past performance, it's at least a six-to-five shot that they'll all make tomorrow's bus on time.

At a far different plateau of leadership are the Smithsonian docents. That's a fine old museumy name for volunteer guides—usually women—who lead visitors of all ages through the exhibits, pointing out which capsule in the Air and Space Museum contained the first space walker, encouraging them to run their hands over the piece of elephant hide in the Museum of Natural History.

A docent at work

Each Smithsonian museum has an education department responsible for training docents. When a trainee has learned everything and still has enough eagerness left to trot over to the Smithsonian on a Saturday morning instead of going to a summer sale at Lord & Taylor, *then* she gets her docent tour badge bearing the museum's chosen insignia. Like a pilot getting his wings.

What, you may well ask, No *men* docents? True, I answer, until the recent sex revolution. For years, docenting was the province of dames. Then about the time that Yale and Princeton took in girl freshmen (freshwomen?), our museums increased their male docent enrollment. About six percent of them over at Nat-

Rosenthal ROUNDBOTTOMS
ROLL WITH THE "PUNCH"

The quintessence of understated continental humor sparkles through these inspired crystal "Schnapps" glasses for discriminating drinkers. Tiny (2 oz.) but great fun.

Delightfully designed by Riedel, for Rosenthal, the aristocrat of European crystal, their unbalanced balance is artistic, impeccable and comic. Always about to fall, never falling, they prove irresistible to your guests. Happy or money back.
2 for $15.00; 6 for $41.00 plus 75¢ for handling. **BETTER IDEAS**
2226 Arbor, Dept. 108, Dayton, OH 45439

Celebrate with LOUD Big Bang
CARBIDE CANNON
Get Now For July 4th, Bicentennial, Holidays, Celebrations

Sounds like shotgun blast! Mighty roar! Great noisemaker for any celebration. Fast firing. Uses inexpensive carbide ammo. Hundreds of shots for few cents. Heavy-duty cast iron. Rugged, authentic design. Lifetime of fun. Modern World War II Cannons have heavy-duty rubber tractor wheels. Larger Cannons give louder blast. Orders mailed same day received.

Ready To Shoot!

Modern 60mm Cannon, 9" long, 2 Tractor Wheels .. $8.95
World War I Cannon, 17" long, 2 Iron Wheels $15.95
Modern 155mm. (shown) 25" long, 8 Tractor Wheels $24.95
Carbide Ammo, About 500 shots ..... $ 2.50

Add $1.75 Shipping. JOHNSON SMITH CO.
Dept. 686, Mt. Clemens, Mich. 48043

ship lists
RESEARCH REPORT
Passenger lists from Mayflower to present tell when your name FIRST came to America. Receive Transcript of Research giving ship, captain, dates, etc. Send $2 fee (refundable) with name, origin. **HOLMES-COREY, Ltd., Box 786-SM65, Marco, Fla. 33937**

New Low-Cost Sources of
ENERGY for the HOME
• **WIND** Power • **WATER** Power • **WOOD** Heating
• **SOLAR** Heating • **METHANE** Digestion

Yes! here is a home energy book which goes beyond discussions, and actually shows the basic "How-to" of installation! Covers: quick calculation of AMPLE ENERGY AVAILABILITY for your site; UP-TO-DATE SOURCE CATALOGS for everything from water pumps to Swiss windmill kits; HOW-TO INFORMATION galore so you can make alternate energy a money-saving reality NOW; COSTING ESTIMATES and ECONOMICS. Over 150 illustrations. Applicable to new or old, urban or rural homes. A huge leap forward in handling the energy crisis! 250 pp., large-size quality paperback, $5.95 postpaid. Ask for ENERGY FOR THE HOME. Send to: **GARDEN WAY PUBLISHING, Dept. 50476, Charlotte, Vermont 05445**

TIME Magazine for the week of July 4th, 1776. The issue that would have been published if TIME had been there.

As a birthday present to America, TIME takes one splendid week of American history, and pulls it into the present in all its tumult and variety. It's history as you've never seen it in the history books. A unique combination of scholarly research and lively imagination. A singular event for publishing—a singular event for TIME.

TIME Magazine for the week of July 4th, 1776. Now at your tobacconist or news vendor.

TIME

for the week of July 4, 1776

LEBANON

GATEWAY TO THE MIDDLE EAST

A country with something for everyone, one of those rare places which is a fascinating mixture of the old and the new, the simple and the exotic.

Born of a rich cultural heritage, the Lebanese are unusually cosmopolitan in outlook and character. Travelers themselves, they welcome visitors with traditional courtesy and hospitality.

Beirut, Lebanon's bustling capital is a major international business center and serves as the perfect gateway to a region, which is of unparalleled economic importance today.

So whether you are travelling for business or pleasure, make Lebanon your first stop when visiting the Middle East. You may not need to go further.

For further information clip and mail the coupon below.

Lebanon Tourist & Information Office
405 Park Avenue
New York, N. Y. 10022
Tel: (212) 421-2201

Please send me more information about Lebanon.

Name _____

Address _____

_____ Zip _____

ural History are men, including a retired geologist, a biologist, a lawyer and a man from the National Science Foundation. There are some husband-wife teams. And at Air and Space, almost a third of the docents are men.

When it comes to touching things, it appears that the Hirshhorn has an infallible tactile appeal. Director Abram Lerner says his young visitors simply cannot keep their hands off some of the exhibits—and he thinks he knows why.

"A lot of the objects that are portrayed in this collection have an innate familiarity," he says. "The kids feel at home with the objects, so they touch the portrayals."

Lerner is pleased by this sort of acceptance of this new art museum and has come to expect a pleasant informality on the part of his visitors.

"Not long ago I came upon a woman changing her baby's diaper in the middle of the gallery," he says. "Wasn't a bit surprised."

There's one exhibit that hardly anyone gets to touch—the Hope diamond. One of the few times that it has left its display vault in the Museum of Natural History was last January, when the Smithsonian TV special on the diamond was being filmed. The scenario called for Smithsonian Secretary S. Dillon Ripley to hold the Hope Diamond and say a few words about it. Curator Paul Desautels, the only person who ordinarily gets to handle the gem, showed up at Secretary Ripley's laboratory early on a Sunday morning for the film sequence. Cameras stood ready, lighting technicians were poised, Ripley was in position, ready for the shooting as Desautels arrived.

"Have you got it?" asked someone, a bit nervously.

Desautels reached in a pocket, paused a bit thoughtfully, tried another pocket, then with mounting panic began fumbling through all his pockets. The cameramen turned and stared, aghast.

"It must be here somewhere," muttered Desautels. "I think I had it just a few minutes ago."

And finally, just this side of general heart failure, he fished it out of an inside pocket—all multimillion dollars' worth of it—and plunked it in Ripley's hand with an innocent smile.

The Hope diamond

The Hope diamond wows most visitors, but Janet Solinger, Director of the Smithsonian Resident Associates, says that a contest among amateur photographers suggests a different tale. Her people sponsor this for resident members of the Smithsonian Associates, with stipulations that the photographic entries must be Smithsonian-related. And almost invariably, says Janet, the favorite photographic subject for the younger entrants in the competition is the popcorn wagon that parks all summer long outside the Smithsonian Castle.

Young people have the knack for assessing values with total assurance. And like many adults, they fail to realize that there are hundreds of workaday types, sweating out their 40 hours a week right here among the exhibits. The other day, two 13-year-olds came wandering uncertainly past me, lost among the cubicles of the office areas in the Arts and Industries Building.

"Can I help?" asked a shirtsleeved administrative assistant who happened to pop out of an office.

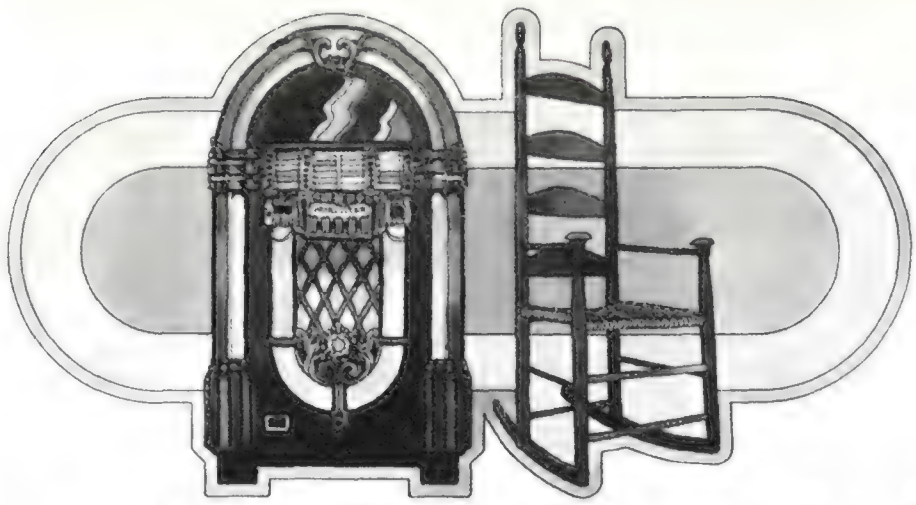
With an uncomplicated understanding of just what is important around here and what is not, the girls stated their problem.

"We're trying to find our way back to the Smithsonian," one explained, sensibly.

"Right down that corridor and turn left," responded the office worker, with never so much as an "er."

EDWARDS PARK

Further details appear in June events at the Smithsonian (p. 109).



What do this Wurlitzer juke box and this Shaker rocker have in common?

They are two aspects of our past you can explore in the pages of Smithsonian Classics books.

For over a century, the Smithsonian Institution has made vital contributions to scholarship with its publication of original research in the sciences, history, technology, and the arts. Many of these publications have become landmarks in their fields which have grown in significance and interest since their publication.

Now the Smithsonian is making a selection of these landmark histories of our past and the forces that shaped it available as the Smithsonian Classics collection for your own library or for giving. And savings to Smithsonian Associates can go as high as 40 percent. Classics titles in print so far and list prices are:

1. **Music Machines: American Style** by Cynthia A. Hoover. A history of mechanical music from Edison to Moog. 139 pp. 223 illus. . . . . $9.95 (**)

2. **Shaker.** An illustrated guide to Shaker furniture. 88 pp. 67 illus. . . . . $14.95 (**)

3. **Natural Dyes in the United States** by Rita Adrosko. 159 pp. 8 illus. and color wheel. . . . . $10.95 (*)

4. **The Bark Canoes and Skin Boats of North America** by Edwin Tappan Adney and Howard I. Chapelle. Primitive watercraft, their design and construction. 242 pp. 224 illus. . . . . $13.50 (*)

5. **Privateers in Charleston** 1793-1796 by Melvin H. Jackson. 160 pp. 25 illus. . . . . $12.95 (*)

6. **A Comparison of the Formative Cultures in the Americas** by James A. Ford. A milestone of research into the origin of American civilization. 211 pp. 32 illus. 22 charts. . . . . $37.50 (*)

7. **Navajo Political Process** by Aubrey W. Williams, Jr. 75 pp. 11 illus. 6 maps . . . . . $13.95 (*)

8. **The North Alaskan Eskimo: a Study in Ecology and Society** by Robert F. Spencer. 477 pp. 8 plates. 2 figures: maps. $15.00

9. **The Indian Tribes of North America** by John R. Swanton. A comprehensive geographic guide to tribal territories in the U. S., Canada, and Central America. 726 pp. 5 fold-out maps $20.00

10. **A Short History of the Mail Service** by Carl H. Scheele. 229 pp. 16 illus. 13 tables $6.95

11. **Wheels and Wheeling: The Smithsonian Cycle Collection** by Smith Hempstone Oliver and Donald H. Berkebile, 104 pp. 95 illus.**

The Smithsonian Collection of Automobiles and Motor Cycles 164 pp. 126 illus. Two paper back volumes in slip case $7.50

All these titles are available under a unique plan for Smithsonian Associates that entitles you to choose your own discount—up to 40 percent—on any Smithsonian books you order between now and October 30, 1975.

See the coupon below for details of how this discount plan works. Then mail the coupon to tell us the discount and titles you have selected.

PLEASE NOTE: These Smithsonian Classics, because of enduring scholarship and interest remain in demand. Some may be purchased in unjacketed versions (*) or in paperback editions (**) direct by mail from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 at prices lower than these retail editions.

How this Unique discount plan works.

- Twenty books have been offered in previous advertisments. Ten additional books will be offered in a subsequent ad for a total of 41 titles. If you are a new participant, a listing of the first 20 will be mailed to you with your order from this ad.
- Use this coupon to make your first selection(s) from the 11 titles above, and indicate how many books you think you'll order between now and October 30, 1975.
- Deduct the discount (up to 40%) to which your total expected purchase entitles you—even if you're ordering only one book now.
- Between now and October 30, you'll have opportunities to select from a total of 41 titles—all at the same discount you choose now.
- You pay no penalty if you order fewer books than you expect. (Of course, as a Smithsonian Associate, you are always entitled to a minimum discount of 20%).

SMITHSONIAN GALLERY OF FINE BOOKS

2002

"For the increase and diffusion of knowledge among men."
Smithsonian Institution Press • 1111 North Capitol Street • Washington, D.C. 20002

I'm indicating the number of books I expect to buy and am deducting my discount. You will offer at least 40 titles between now and October 30, 1975, and I am not obligated to buy the indicated number.

- ☐ Check here if you've ordered before.
- ☐ I am a new participant, and I Expect to Buy:
- ☐ 2 books at a 25% discount
- ☐ 3 books at a 30% discount
- ☐ 4 books at a 35% discount
- ☐ 5 or more at a 40% discount

Please rush selections circled:
1 2 3 4 5 6 7 8 9 10 11

The total list price for my selections $ _____

Less the amount of my ____% discount checked above $ _____

Plus handling and shipping $ 1.00

TOTAL $ _____

Name _____

Address _____

City _____ State _____ Zip _____

☐ I enclose check or money order. ☐ Please charge to my

American Express # _____

Master Charge # _____

BankAmericard # _____

Good Through _____

Signature _____
(Credit card orders must be signed to be valid)

Photo restoration

For the first time in nearly three centuries, the full visual experience of the magnificent Parthenon frieze has been recaptured. In a series of photographs, carefully matched in scale, focus, and lighting, Alison Frantz has reconstructed the entire frieze. These pictures are accompanied by an engaging, informative text by Martin Robertson and many detailed enlargements that highlight this achievement.

THE PARTHENON FRIEZE

Martin Robertson
Alison Frantz

With 48 pages of photographs in a luxurious 9 x 12 format, $9.50

OXFORD UNIVERSITY PRESS
200 Madison Ave., New York 10016

Book reviews

These United States
Hugh Sidey
Photographs by Fred J. Maroon
(EPM Publications, $29.95)

There is more that is right than wrong, more beauty than ugliness, more untouched than destroyed. That basically is the theme in pictures and words of this book, the latest contribution to the growing number of Bicentennial publications, a book that looks determinedly on the bright side.

All the states are portrayed in the 160 full pages of color photographs by Fred Maroon, which capture the beauty and incredible variety of the physical and human landscape. The text, by *Time*'s Washington bureau chief, is a reflection of what he feels about his country and his nostalgia for the simple and good America of his small-town boyhood days.

In an era of doubts and brooding national introspection, *These United States* is an upbeat reminder of the great good fortune of this nation. This, however, is not a warts-and-all portrait of America.

As Mr. Sidey gazes reflectively from his airliner he ponders the choice for America—either to "begin to heal our land" or of "consuming ourselves into oblivion." What must be done, he says, is "to take another look at the principles of human conduct on which we founded this nation," which he does by recalling his childhood in Greenfield, Iowa.

In Greenfield, "there was always an undertow of obligation, part of the cement of society that is in such short supply now." There was no excuse those days for not pulling your weight on the football field or in the church choir, and if a marching band needed a trombone player, "trombone players were somehow to be found." One wonders if that was still the case after the television age came to his hometown.

His text is laced with historical references to the 50 states and quotes from famous Americans—Watergate is still clearly much on his mind, but his occasional swipes at "Richard Nixon and his men" who "founded their power on suspicion and hate" strike a somewhat discordant note in this picture-book text.

A porch in Woodstock, Vermont

Mr. Maroon's photographs emphasize the precious and natural heritage which is America, and an atmospheric quality infuses many of them. It is in the "misty early light" that Maroon calls the "time of poetry" which bathes the horses rounded up at daybreak. Sometimes figures are enveloped so much by the dissolving light that they become one with the landscape; even when looking at a downtown black street in Holly Springs, Mississippi, it is hard to believe that a scene of dejection and poverty is being portrayed. A striking picture of polo players in Texas, in front of refinery towers, is another example of the strong unifying element of light in Maroon's work.

The local, unworldly scenes are a pervading element in Maroon's depiction of America. Mountain people from Arkansas play the fiddle in the kitchen while

a girl dances in the dingy light. The "cattle auction" in Nebraska gives both a feeling of the vastness of the land and of the tough rural life that still goes on far from the city.

The grandeur of the landscapes and seascapes should encourage many Americans and visitors from overseas to celebrate next year by seeing for themselves the unspoiled natural beauty that these United States still have to offer in such diversity and abundance.

—Richard Beeston
Washington correspondent,
The Daily Telegraph, London

Edmund Randolph, A Biography
John J. Reardon
(Macmillan, $11.95)

Picture the scene. The Secretary of State arrives for his mysteriously delayed appointment with the President. Entering, he is surprised to see the Secretaries of Treasury and War. His uneasiness increases when the President hands him a paper. The document, an intercepted dispatch from a foreign diplomat to his government, strongly implies that the Secretary of State had solicited money in return for advocating policies which would favor the foreign government.

A novel? No, the President was George Washington and the Secretary was Edmund Randolph, the subject of John Reardon's scholarly biography. Randolph was America's first Attorney General, its second Secretary of State—and its first cabinet officer to resign in disgrace.

Randolph was one of the group of men apparently born to lead. After independence, he managed to combine a lucrative law practice, which included Washington as a nonpaying client, with a political career which saw him successively as Virginia's first Attorney General, a member of Congress and Governor of Virginia.

Randolph, impelled by awareness of the precarious quality of the new nation under the Articles of Confederation, was a moving spirit in bringing about the Constitutional Convention—not the least of his accomplishments being to coax a reluctant Washington out of retirement to head the Virginia delegation. At the Convention, Randolph's opening speech laid out Madison's plan for a federal system, which evolved into the Constitution. (By then Randolph had had to choose between law and politics. His rationale

Minolta helps you discover a new world.

A Minolta SR-T can help you share the wonder of discovery by not holding you back.

You're comfortable with a Minolta SR-T from the moment you pick it up. This is the 35mm reflex camera that lets you concentrate on the picture, because the viewfinder shows all the information needed for correct exposure and focusing. You never have to look away from the finder to adjust a Minolta SR-T, so you're ready to catch the one photograph that could never be taken again.

And when subjects call for a different perspective, Minolta SR-T cameras accept a complete system of interchangeable lenses, from "fisheye" wide angle to super-telephoto.

Look into the fast handling Minolta SR-T and discover your own new world. For more information, see your photo dealer or write Minolta Corporation, 101 Williams Drive, Ramsey, New Jersey 07446. In Canada: Anglophoto Ltd., P.Q.

Minolta SR-T Cameras

Handsome Headpiece for Top Hands Ramrods and Dudes

To keep you cool headed and jauntily comfortable, we've had Stetson duplicate the famous Eddie Bauer DERRINGER in fine Panama Straw. Total weight 2¼ ounces! The 3-inch edgebound brim has the distinctive upward roll you see on hats made to order for Southwest ranchers. The headband is colorfully woven in authentic Apache tribal patterns. **Sizes:** 6¾-7¾. **Color:** Straw Gold. **1965** Featherweight DERRINGER, **$11.95** ppd.

Order Today! Money Back Guarantee!

Enclosed is my check or money order for $_____. (Add sales tax where applicable.)

Please rush my **1965** Derringer. Size_____

Name_____

Address_____

City_____

State_____ Zip_____

☐ Send me FREE your color catalog of over 1200 exciting outdoor products.

Eddie Bauer®

Dept. XSM, 1737 Airport Way S., Seattle, Wa. 98134

for dropping law—"a profession which from the earliest moment of my life I abominated and from which I was determined to escape"—may illuminate the surfeit of ex-lawyers in political life.)

After Washington's inauguration, he appointed Randolph Attorney General, a post with vaguely defined duties which took shape in the conflicts of the young Republic. Hamilton's proposals for a national bank had helped speed a polarization which set Federalists and Republicans, pro-English and pro-French factions, advocates of broad federal powers and of limited federal powers, into hostile camps.

It was this polarization, dramatized by the bitter rivalry between Hamilton and Jefferson, that forged Randolph's role in the cabinet. His talent for putting together a middle position was a boon to Washington, uncomfortable in the battling between his two brilliant Secretaries. Randolph became Washington's indispensable political adviser.

When Jefferson resigned, Washington, with some qualms, appointed Randolph Secretary of State. Thirteen months after Jefferson, Hamilton resigned. And with these two tempestuous apostles of different creeds gone, Randolph had outlived his usefulness to Washington.

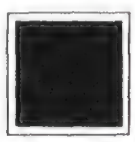
With luck, Edmund Randolph would have faded away. Instead, he stood that day in August 1795 before Washington and read the captured dispatch of former French Minister Jean Fauchet. Washington wanted answers. Randolph, outraged at being confronted in the presence of others, resigned.

In an attempt to clear his name, Randolph obtained and published additional dispatches which put into somewhat different perspective Fauchet's references to him. But if the new material lessened the suspicion that Randolph had acted for personal gain, it cast into greater doubt the propriety of his conduct: His conversations with Fauchet emerged as highly indiscreet, portraying Washington as something of a well-meaning ninny misguided by evil advisers.

His much pre-publicized "vindication" a flop, an embittered Randolph returned to Virginia and the law. But, still, oblivion eluded him. It was then the practice to hold cabinet officers personally liable for funds appropriated to their depart-

FOKKER D-VII
"U.10"

Pilot: Lt. Heinz von Beaulieu-Marconnay



Original Fabric

The National Air and Space Museum's own Fokker D-VII, considered the best German fighter of World War I, has been restored and will be exhibited in the new National Air and Space Museum in 1976. The original fabric, which was replaced during the restoration, is being offered to the public. The best portions of the fabric have been cut into squares and mounted on handsome 15 x 20" posters.

The Fokker D-VII poster, the second of the Aviation Relic Series, will make a unique gift. Worthy of framing, this historic poster is not to be missed.

Information regarding the first poster of the Douglas World Cruiser, may be obtained by writing to the address below.

FOKKER D-VII
NATIONAL AIR AND SPACE MUSEUM
SMITHSONIAN INSTITUTION, WASHINGTON, D. C. 20560

Please send me _____ Fokker D-VII poster(s) at $10.00 each.
Enclosed is my ☐ check; ☐ money order in the amount of $_____.

Name_____

Street_____

City_____ State_____ Zip_____

ments, and now the United States asked Randolph to account for funds he had disbursed as Secretary of State. Unable to document all his expenditures, Randolph had to repay more than $50,000.

Edmund Randolph, statesman

Judiciously neither canonizing nor derogating his subject, Reardon has given substance to a Founding Father patronizingly ignored by earlier historians.
—*Leonard Reed*
Free-lance writer and editor

The Vegetable Passion: A History of the Vegetarian State of Mind
Janet Barkas
(Charles Scribner's Sons, $8.95)

During one meat-eating departure from his lifelong vegetarianism, Gandhi suffered a nightmare: "Every time I dropped off to sleep, it would seem as though a live goat were bleating inside me, and I would jump up full of remorse."

George Bernard Shaw, on the other hand, refused fish, flesh and fowl for nutritional reasons. He offered a typical display of his wit in an interview about his diet in 1924:
Interviewer: Tell me how you succeeded in remaining so youthful.
Shaw: I don't. I look my age; and I *am* my age. It is the other people who look older than they are. What can you expect from people who eat corpses and drink spirits?

These are two of the varieties of vegetarianism outlined by Janet Barkas. We

SWIM SNEAKS
ALL RUBBER BATHING & SHOWER SHOES

Outdoors and indoors, you'll want **high quality Italian imported** rubber bathing shoes...with thick treaded bottoms and built-in inner soles. Sure-footed **protection** on shoreline rocks, pool or boat decks, and shower floors. Eliminate sore feet on sharp rocks, shells, or hot sand. Styled for **comfort** and **good looks.** Flexible, lightweight, easy on and off. Great in and out of water. Available in white, yellow, blue and red. Complete range of men's, women's and children's sizes. Specify shoe size and width. $6.98 per pair. Add 50¢ per pair for postage & handling. Add add'l 25¢ for rush service. **Tel. (201) 967-0373.**

Dorsay
Dept. RB23
240 Kinderkamack Rd.
Oradell, N.J. 07649

2" x 2" x ¾"

YOUR LOGO ON
POLISHED MARBLE PAPERWEIGHTS
100 Minimum $225. total cost. Your logo etched in up to 5 matched colors. Spread good will at minimum cost. Free sample paperweight and literature. Letterhead requests only.
PAPERWEIGHTS, INC. Dept. SM
100 Broadway, Garden City Park, New York 11040 (516) 741-2800

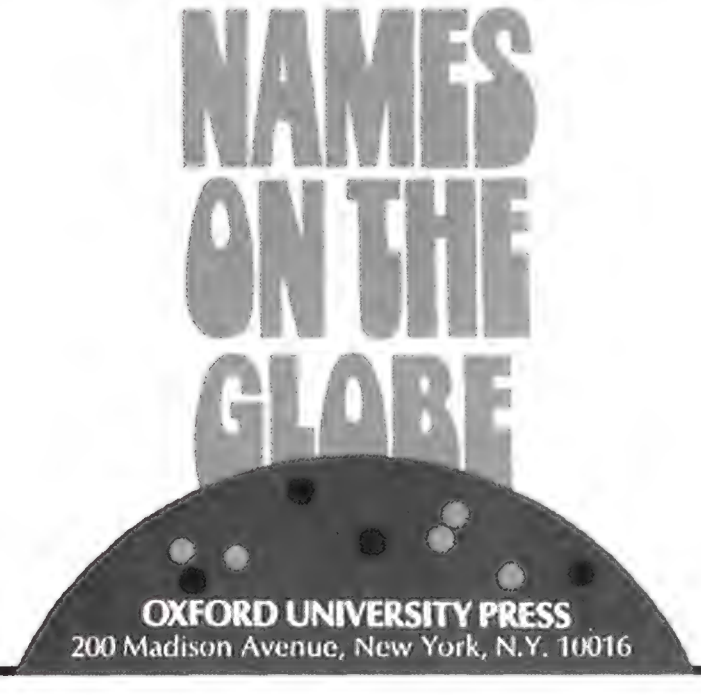
Cousteau
confronts the sea's most fascinating creature

Dolphins

Captain Cousteau and the crew of the *Calypso* have observed dolphins for 25 years in their natural habitat—the sea—rather than in research tanks. Their adventures are at the heart of DOLPHINS by Cousteau and Philippe Diolé, the brand new addition to the Undersea Discoveries of Jacques-Yves Cousteau Series. With 105 full-color photos, $12.95 at booksellers

DOUBLEDAY

What's in a place name?
History, folklore, poetry, mythology—and more.
To George Stewart, a place name is not a mere linguistic relic, but a living record of some very human activity. In explaining who gave a particular place its name, why the name was chosen, and how the name has been changed (or not changed) in following years, he offers a vast treasury of revealing anecdotes about the explorers, settlers, and conquerors whose distinctive footsteps can be traced in the names on the globe. Illustrated, $11.95
GEORGE R. STEWART
Author of the classic *Names on the Land* and *American Place Names.*



OXFORD UNIVERSITY PRESS
200 Madison Avenue, New York, N.Y. 10016

AN ORDINARY DOG IN AMERICA EATS BETTER THAN SHE DOES.

Cristina eats whatever she can find in the garbage. And that is far less than some prowling dog would find in your garbage can.

For just $12 a month, you can save such a child.

Through our Children, Inc. "Adoption" program you can help provide a child with a better diet, new clothes and medical attention. Even an education.

But there's not a moment to lose. Every 60 seconds, five or six more children will die from starvation.

Write direct to Mrs. Jeanne Clarke Wood, Children, Incorporated, Box 5381, Dept.SM6D, Richmond, Va. 23220.

I wish to "adopt" a boy ☐ girl ☐ in _____.
Name of Country

I will pay $12 a month ($144 a year). Enclosed is my gift for ☐ a full year ☐ the first month. Please send me the child's name, story, address and picture.

I understand that I can correspond with my child, and continue the "adoption" longer than one year if I wish.

☐ I cannot "adopt" a child, but want to help $_____.
☐ Or, I will pledge $_____ per month.
☐ Please send me further information.
☐ If for a group, please specify_____.
Church, Class, Club, School, Business, etc

Name_____

Address_____

City_____State_____Zip_____

You can adopt a child from any of the following countries: Argentina, Bolivia, Chile, Colombia, Dominican Republic, El Salvador, France, Guatemala, Honduras, Hong Kong, India, Iran, Japan, Jordan, Kenya, Korea, Lebanon, Mexico, Nicaragua, Paraguay, Peru, Sri Lanka (Ceylon), Syria, Thailand, Uganda, U.S.A. — Appalachian children or American Indians. (Or a child of greatest need.) U.S. gifts are fully tax deductible.

CHILDREN, INCORPORATED

also find out what drew Hitler, Shelley, Pythagoras, Tolstoy, Wagner and da Vinci to a meatless diet.

Most early vegetarians had ethical reasons for not eating meat. Legend has it that Pythagoras paid fishermen to return their catch to the sea. Leonardo supposedly bought caged birds only to be able to free them. Tolstoy, in his later, deeply religious years, believed there was a definite pattern connecting killing of insects, slaughter of animals and fighting among men. Moral arguments against the eating of fish and animals also point to the aggressiveness of carnivores.

Moral grounds, the author points out, are today only one of many reasons for refusing to eat meat. The most compelling chapter of this book, "Nutritional Controversies," deals with the current world food situation (SMITHSONIAN, January 1975) and the nutritional and economic rationale for a vegetarian diet. As we speed toward the "limits to growth" posed by population expansion and resource depletion, world food production will have to become more efficient. Worldwide estimates show that great numbers of the people being born today are already dying from malnutrition. The red-blooded American fetish of deriving all our protein from animal sources begins to look as extravagant as the eight-miles-per-gallon gas guzzler. The conventional conviction which relies on meat and animal products as the chief source of protein in the American diet is challenged.

"The single most important source of protein in the world," Miss Barkas states, "is the *cereals*, such as wheat, barley, maize, rice, rye and millet." The first advantage of the cereals is their efficiency in production of protein. An acre of cereals can produce five times more protein than the same acre devoted to meat production. Secondly, the cereals and other vegetable sources can serve as the basis of a balanced, nutritionally adequate diet (SMITHSONIAN, April 1975). By conscientiously combining protein foods such as cereals, seeds, beans and nuts, almost all our nutritional needs can be met—without meat. Miss Barkas outlines some very simple rules for setting up a complete, protein-rich diet.

The book suffers in places from clumsy, confusing language, but the overall effort is entertaining and informative. Whether we're driven from eating meat by our conscience or by the cash register if it be-

comes more and more of a luxury, we would all do well to understand that vegetables can be a complete diet. The book provides a link between age-old dietary beliefs and the news of the future which is already changing our diets.
—Michael Prewitt
Free-lance writer and designer

Techniques of Industrial Archaeology
J.P.M. Pannel. Edited by J. Kenneth Major.
(David & Charles, $9.95)

• A few years ago, a Scandinavian professor was presenting a paper on timber engineering to a conference in the south of England. He had uncovered some startling facts about the possibilities of laminated timber arches in roof construction. To his embarrassment, he soon discovered that the very town where he spoke had a building with the exact wood-laminated arch he had proposed. Except that it had been built in 1866.

• During the cleanup of a large blacksmith shop, workers were puzzled by an enormous cast-iron plate that had been covering a large portion of one wall. It had been there for as long as anyone connected with the firm could remember—and to no apparent structural purpose. When it was removed, its purpose was all too clear: It opened on a brick passageway to a nearby pub.

These two incidents are part of the small but growing history of a new discipline called Industrial Archaeology, the study of the antecedents to today's processes, equipment and manufacturing customs. Continual industrial obsolescence has forced many changes upon the world, and in many fields; transportation, construction, energy sources, materials, and even the recreation industries—calliopes, seaside resort design and bathing machines. It is a constant process. Vacuum-tube technology and the machines of yesterday's moon shot are in the same danger of sinking without a ripple in the waves of history as are tide mills, canals and cast-iron building facades.

Today, however, there is an impulse to rediscover the simpler arts of the past. Inflation, the energy crisis, and the national mood have brought this about. Even if this mood does not extend to William Blake's "dark Satanic mills," it does concern itself with village crafts, the rural arts, and the structure of communal

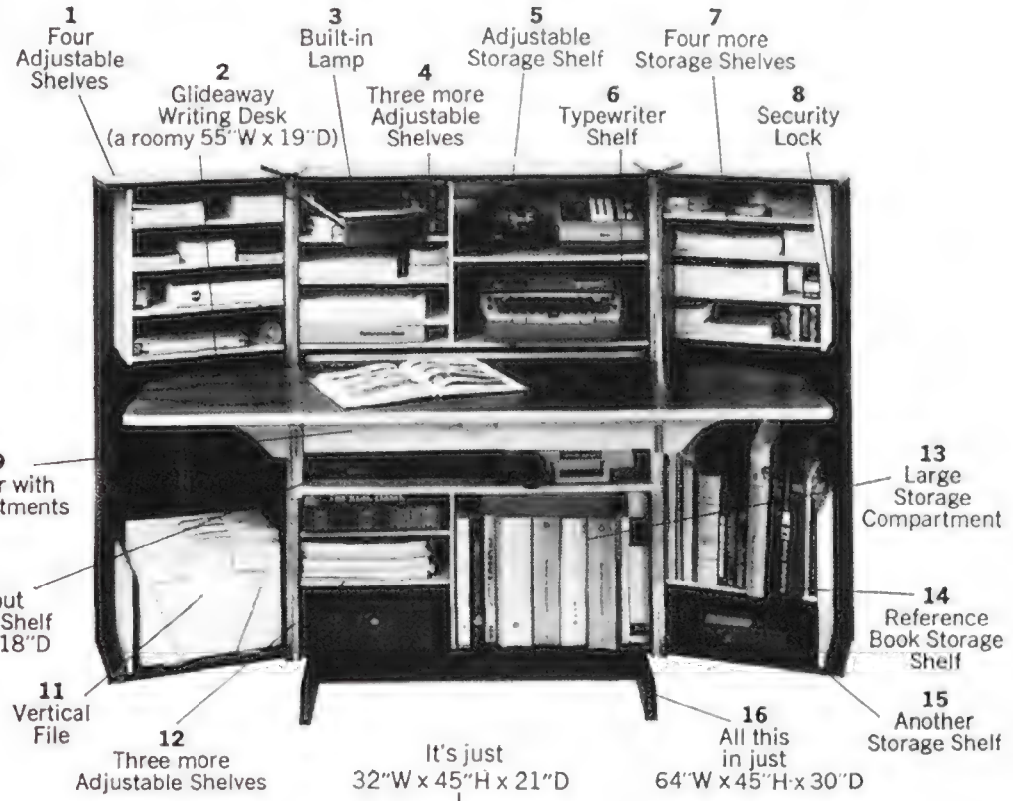
SCOTT'S LAST VOYAGE

Through the Antartic Camera of Herbert Ponting
Edited by Ann Savours
Introduced by Sir Peter Scott
"Herbert Ponting, a remarkable photographer, caught the spirit of the ill-fated 1910-12 expedition. His photographs give us the chill, the fun, the personalities, the beauty and the starkness of that vast unexplored land and the men who made the journey."
—Detroit Free Press

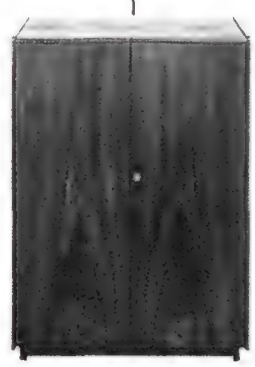
125 black-and-white photographs, 4 in color $12.50

Praeger

We'll pay you $50 to get organized by July 31.


1 Four Adjustable Shelves
2 Glideaway Writing Desk (a roomy 55"W x 19"D)
3 Built-in Lamp
4 Three more Adjustable Shelves
5 Adjustable Storage Shelf
6 Typewriter Shelf
7 Four more Storage Shelves
8 Security Lock
9 Drawer with Compartments
10 Pull-out Storage Shelf 30"W x 18"D
11 Vertical File
12 Three more Adjustable Shelves
13 Large Storage Compartment
14 Reference Book Storage Shelf
15 Another Storage Shelf
16 All this in just 64"W x 45"H x 30"D
It's just 32"W x 45"H x 21"D

Order The Organizer during this sale and save $50. And a lot more. At first glance The Organizer is a handsome cabinet, but open it and you'll find everything you need to get down to business. This ingenious piece of furniture is designed so you get more work done in less space. It gives you a place to organize things, and know they'll be there when you need them. And thanks to its fine Norwegian craftsmanship, it fits beautifully into your living room, den, bedroom



or wherever you like to work. The Organizer comes in three dramatically grained woods...Teak, Walnut and Rosewood. And if you order now you get it for only $395, (Rosewood $445). That's $50 less than it costs regularly. (Usually tax deductible.) Same 60-day, money-back guarantee. If you can't come in to see The Organizer, order by mail or phone 212 355-3160. Or ask for color brochure No. S6-5
It'll be a long time before you get another chance like this.

GREATWOOD
Greatwood Products, Inc.
800 Third Ave., New York, N.Y. 10022 (212) 355-3160
101 S. Robertson Blvd., Los Angeles, Cal. 90048 (213) 273-5007

☐ Please send me The Organizer at *special sale price.*
☐ Walnut—$395 ☐ Teak—$395 ☐ Rosewood—$445
plus $25 for delivery anywhere in continental U.S.
Check enclosed $_____
Charge to: ☐ Master Charge ☐ BankAmericard ☐ American Express

Acct. No._____ Exp. Date_____
Name_____
Address_____
City_____ State_____ Zip_____
Telephone Number_____
N.Y. & Cal. residents add applicable sales tax. S6-5

EAST AFRICA FIELD TRIPS

Auspices of the Sierra Club

Leisurely field trips under informative leadership. Three-week tours by car. Longer, more extensive tours by private plane.

YOU'LL LIVE IN THE WILDERNESS right among the animals . . . elephants, hippos, rhinos. The hoofed beasts: zebra, giraffe, impala, wildebeeste, buffalo and others. The predators: lion, leopard, cheetah plus smaller hunters. More birds than you ever imagined.

YOU'LL SEE the whole magnificent land from the snows of Mt. Kenya and Kilimanjaro to the beaches of the Indian Ocean . . . tribesmen as natural and exotic as the wildlife . . . white settlers . . . Asians in turbans or saris . . . veiled Moslem women . . . the ethnic struggle . . . tribalism vs. nationalism . . . agriculture vs. conservation . . . progress vs. prehistoric folkways.

YOU'LL BE COMFORTABLE. Room and bath at delightful lodges–uncrowded cars–everyone has body room and a window seat–new luxurious five passenger 2-engine planes–leisurely pace–frequently two nights in the same place.

For brochure, see your travel agent or write to:

Sierra Club (212) 354-1480
East Africa Field Trips
c/o Club Tours, Inc.
Dept. S-6, 25 West 43 St., N.Y., N.Y. 10036
Please send your East Africa brochure to

Name _____
Address _____
City _____ State _____ Zip _____
I am interested in departures in (month)

Tours are organized and operated by Club Tours, Inc.

THE GENTLE TASADAY

A Stone Age People in the Philippine Rain Forest
by John Nance
Foreword by Charles Lindbergh

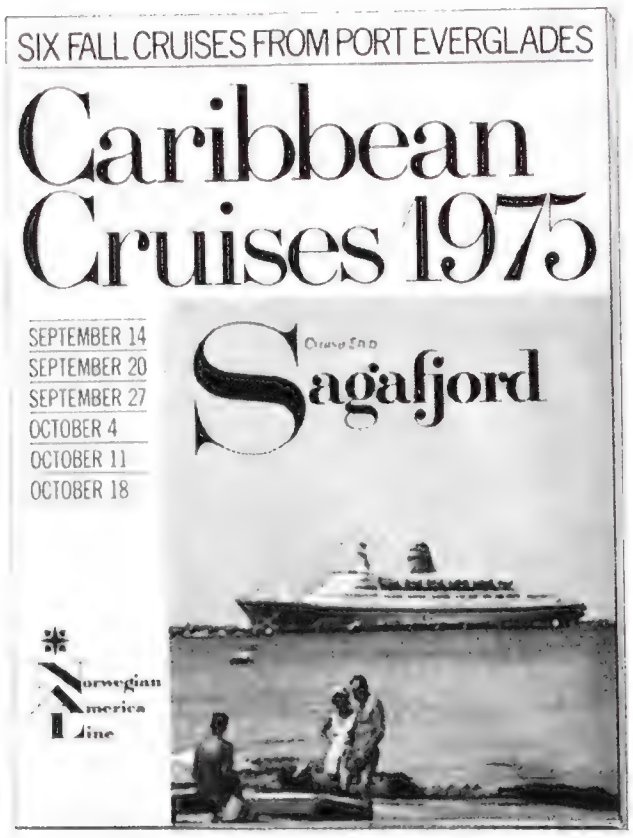
Millions have seen them on television and read about them in newspapers and magazines. At last, the first book about those loving and beautiful people from the Tasaday caves. "It is hard to imagine that another book will appear for a long time so poignant and full of wonders."—*Publishers Weekly*

64 pages of photographs
A selection of 4 book clubs
$15.00

HARCOURT BRACE JOVANOVICH

The Different Caribbean

Sagafjord cruising makes all the difference.
So does a 50% refund of your air fare.



This full-color brochure tells you about a great new program of one-week cruises. And a great new bonus, too—we pay half your round trip coach air fare to Port Everglades or a $50 travel allowance if you live in Florida. Come discover the Sagafjord difference in Caribbean cruising. True world cruise spaciousness, in a ship that's more ship per passenger. The warm, genuine welcome of our attractive European crew. And 65 years of unique NAL Norwegian-style cruising experience. Ask your travel agent or us for this brochure and a complete schedule of cruises on the Sagafjord and Vistafjord. There's a welcome difference

Ships of Norwegian Registry

Norwegian America Line

29 Broadway, New York, N.Y. 10006 Tel. (212) 944-6900

living—all part of Industrial Archaeology (SMITHSONIAN, February 1972).

One of the curious things about the rage for this new science is that a great many of its findings are made by weekend investigators. These results are then codified and refined by professional historians and museum curators.

Mindful of that, this book is a sane and reliable source on all aspects of the trade —mainly for the amateur. First published in 1966, and now brought up to date by J. Kenneth Major, it presents all you need to know, from fieldwork—surveying, measuring machines and buildings, maps and plans, photography—to documentation. Of course, since the major impetus to the movement comes from England—where its spirit has flourished since the days of John Ruskin and William Richard Morris—this book's orientation is largely British. (This is one of a series, *The Industrial Archaeology of the British Isles,* published by David & Charles.) Still, this is a hindrance only in the documentation section, which concentrates on such unfamiliar sources as *Parliamentary Papers* and the *Victoria History of the Counties of England.* Similar lodes for us are the WPA guides to the states and the papers of various government agencies—the Commerce Department, for one.

What is to be learned from all this? In just the past few years a number of recovery societies have appeared, most of which are dedicated to only one portion of Industrial Archaeology. The American Canal Society is one. The Delaware and Raritan Canal Coalition is another; after a great deal of pressure it has saved from destruction, and has been instrumental in restoring, a canal that slices its way across New Jersey from Trenton on the Delaware River to New Brunswick on the Raritan. On it, as late as the 1920s, alumni could spend their Saturdays yachting from New York or Philadelphia to Princeton football games. What is now a long, thin state park and a delight, was very nearly lost.

—Michael Olmert

Free-lance writer and critic

Picture Credits

Cover Tom Nebbia-DPI; 6 Mrs. S. Dillon Ripley; 23 Chuck Herron-USDA; 28, 30-37 Farrell Grehan; 38-45 Hans Kruuk; 48-50 Charles O'Rear; 51 Howard Heggestad-USDA; 52, 53 Emery Industries, Inc.; 54 Ken Kay; 55 Ross Chapple; 58, 60-65 Ralph Crane; 68-73, 75 George Silk; 76-82 Dan Guravich except 81 courtesy The Confederate Air Force; 84-91 James Van DerZee; 93 courtesy Bliss Schumann; 94 John R. Tennant; 96 Lee Boltin; 108 Ken Dresser; 112 Herb Brammeier jr.

Travel Benefits for Smithsonian Associates

With the growth of the Smithsonian Associates, the Institution is striving to meet the needs of its membership by offering a varied travel program. Traditionally, Foreign Study Tours provided culturally oriented, first-class, specialized trips under the guidance of museum curators or experts in respective fields. Then, Domestic Study Tours were added to offer similar opportunities within the United States, thus allowing Associates and their families a chance to combine vacation with a period of study. (Occasionally, for administrative reasons, Domestic Study Tours will sponsor a trip abroad or Foreign Study Tours will offer a trip within the United States.*) Last Fall, Foreign Charter Tours were introduced; these trips are larger, lower-cost and more generalized in nature. In April we were pleased to announce a new category of travel sponsored by the Division of Performing Arts in cooperation with United Buying Service. These tours are also low-cost, but they are specifically tailored for Associates wanting to concentrate on the performing arts, with an emphasis on the London theater. Travel benefits are announced exclusively in SMITHSONIAN.

Domestic Study Tours

• **Quebec***—June 21-28: French culture in Montreal and Quebec City • **Williamsburg Family Weekend**—June 27-29: A weekend planned especially for families with children of elementary school age • **Iceland and Faroe Islands***—August 9-23: A trip through Iceland to the Westman and Faroe Islands • **Massachusetts**—August 9-16: Boston, Deerfield, Sturbridge Village and New Bedford, highlighted by the Berkshire Music Festival • **Williamsburg**—September 3-7: A return to Colonial days, with accommodations at the Williamsburg Inn • **Pacific Northwest**—September 6-16: Spectacular forests and national parks; side trips to the San Juan Islands and Victoria • **Chesapeake Bay**—September 20-27: Bay history and ecology with stops at Oxford, St. Michaels and Baltimore • **New England Foliage**—October 4-12: Nature study in New Hampshire and Maine at the peak of fall color change; cruise around Acadia National Park in search of seals; climb Mt. Washington • **All About Gems Weekend**—October 24-26: Dinner in the Hall of Gems; meetings with curators and staff; a special tour of the gem and mineral collections • **Washington "Anytime" Weekend:** Choose any weekend to visit the nation's capital and enjoy a special tour of the original Smithsonian building, two nights at the elegant Loew's L'Enfant Plaza Hotel, close by, and a chance to see other sites in Washington (all-inclusive price is $59.95 per person based on double occupancy) • In November a **Puerto Rico Botany Study*** • Write Domestic Study Tours, Room 1270B A & I, Smithsonian Institution, Washington, D.C. 20560 or call (202) 381-5910. Please make reservations at least 30 days prior to departure date.

Foreign Study Tours

Copenhagen to Lisbon Cruise—August 23-September 14: A unique, once-in-a-lifetime opportunity to view private and public collections in celebration of "European Architectural Heritage Year." Highlights include a cruise through the Kiel Canal and Seine River to Rouen, France; a trip up the Loire River to Nantes; and an all-day excursion to Santiago da Compostela before departing Lisbon to New York. Accommodations on the spacious yacht *Argonaut* • **Russia**—September 22-October 4: Art and architecture • **Hawaiian Islands***—November 8-21: Petroglyphs and natural history • Write Miss Bliss Schumann, Foreign Study Tours, SI 123, Smithsonian Institution, Washington, D.C. 20560, or call (202) 381-5520.

Foreign Charter Tours

The charter tours to the Soviet Union and Great Britain have been sold out. Details of a new January trip to the Soviet Union will be announced in next month's SMITHSONIAN • Write Robert Angle, 900 Jefferson Drive, Smithsonian Institution, Washington, D.C. 20560, or call (202) 381-6493.

Performing Arts Tours

London Theater—July 5-19 or August 2-15: Comprehensive theater tours include seven performances, backstage visits, seminars • Write Mark Mason, Division of Performing Arts, Smithsonian Institution, Washington, D.C. 20560, or call (202) 381-6535.

Smithsonian Commons Now Open on Weekends
As a result of its overwhelming popularity, the Smithsonian Commons is now open on weekends for Associates and their families. Located in the original Castle building, the Commons offers a buffet luncheon entrée for a fixed price of $3.25, with a reduced rate for children. Beverages and desserts are optional. The Reception Center and dining area provide a place for Associates to obtain information and lunch in a relaxed setting while visiting the national museums on the Mall. Hours are 11:15 A.M. to 2:15 P.M., seven days a week. An Associates' card is required.

SMITHSONIAN CHANGE OF ADDRESS FORM

PLEASE NOTIFY US 60 DAYS IN ADVANCE OF CHANGE

ATTACH LABEL FROM RECENT ISSUE OR PRINT OLD ADDRESS AND NEW ADDRESS BELOW

OLD ADDRESS

Name_____
Address_____
City_____
State_____ Zip_____

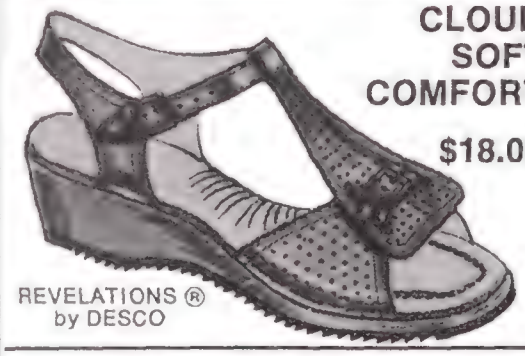
NEW ADDRESS *Please print clearly*

Name_____
Address_____
City_____
State_____ Zip_____

SEND TO:

SMITHSONIAN Subscription Service
P.O. Box 5300
Greenwich, Conn. 06830
Telephone (203) 661-1042

Important Note:
To change your address, inquire about the status of your National Associates membership-subscription, dues payments, gifts, missing issues or membership cards and related matters, *please write direct to our facility in Greenwich, Conn., where all these records are maintained and processed.* A staff is on hand at that location to give prompt attention to your requests. Please do not write to the Institution in Washington about these matters, as it will only delay response. To obtain special services for unusual circumstances please write to: Circulation Dept., SMITHSONIAN Magazine, 420 Lexington Ave., N.Y., N.Y. 10017.



CLOUD SOFT COMFORT

$18.00

REVELATIONS ® by DESCO

Airy, flexible sandal with 1½" wedge. Perforated Genuine Leather. Foam-padded lining. Cushioned insoles. Arch supports. No-slip rubber sole. Adjustable buckle straps. **White, Camel, Red. Full & ½ sizes 6-10N, 4-10M, 4½-10W.**

$18.00
Add $1 post.

$10 deposit for COD Satis. Guar.

OLD PUEBLO TRADERS N6A
600 So. Country Club, Tucson, Az. 85716

ORIGINAL W.W.II HELMET

(NOT A REPLICA)

ONLY **$19.95** PLUS $2.00 POSTAGE & HANDLING

OVER 10,000 ITEMS IN STOCK **COLLECTORS!** OVER 10,000 ITEMS IN STOCK

Helmets, Uniforms, Bayonets etc. FREE CATALOG

UNIQUE IMPORTS, INC. Dept. SI-1
610 Franklin St., Alexandria, VA 22314

Sleep on air

Introducing an incredible new sleeping discovery: an inflatable bed that uses a series of unique, patented air coil cells* to evenly distribute the air inside.

Air is better than water. When the bed is fully inflated you get the therapeutic support of the best mattress with no hard spots. A little less air gives the feel of a waterbed. All the sensuality of water with none of the hassle.

Soft, velvet-tufted finish. The bed is tough, made of rugged material as used for inflatable boats. But the surface is soft and velvet-like. Made of electrostatically impregnated rayon, it's colorfast and fully washable.

Total portability. Take it anywhere. It inflates in minutes using a vacuum cleaner. Folds to drawer size. Weighs less than 10 pounds. Great permanent bed, guest bed, travel bed, or the most luxurious pool float ever.

Fully guaranteed, order now. Guaranteed for a year against defects in materials and workmanship.

To order, send the coupon with check, M.O. or credit card information. Or credit card customers may call our toll-free number: **800-835-2246.**

INFLATE-A-BED
Next to breathing, it's the most fun you can have with air.
***pat. pending**

Please send Inflate-a-bed(s) as specified. I realize if not satisfied I can return in 10 days for **immediate refund.**

How Many?_____ Circle color: Red Green Black
Circle size: Twin @ $59.95 Full @ $69.95 Queen @ $79.95
King @ $99.95 Add $3.95 for shipping and handling.
Ks. residents add 3% sales tax.
☐ Check or M.O. enclosed. ☐ Mastercharge ☐ BankAmericard

Card # _____

by Name_____ Exp. date_____

Sig: X _____

Name _____

Address _____

City_____ State_____ Zip_____

Mail coupon to: Inflate-a-bed, NAS Mktg., 226 Fox Hill Office Center, 4550 W. 109th, Overland Park, Ks. 66211 SM

Additional reading

Canterbury Cathedral (p. 28)

Portrait of Canterbury by J. Boyle, Hale (London), 1974

The Stained Glass of Canterbury Cathedral by D. Ingram Hill, The Friends of Canterbury Cathedral

English Stained Glass by H. E. Read, Kraus Reprint, reprint of the 1926 edition

Windows: A Book About Stained and Painted Glass by L. F. Day, Charles Scribner's Sons, 1909

Ancient Glass of Canterbury Cathedral by Bernard Rackham, Lund (London), 1949

Canterbury Under the Angevin Kings by W. G. Urry, Athlone (London), 1967

Hyenas (p. 38)

The Spotted Hyena by Hans Kruuk, The University of Chicago Press, 1972

Ozone (p. 48)

"Stratospheric Pollution: Multiple Threats to Earth's Ozone" by Allen L. Hammond and Thomas H. Maugh II, *Science*, Volume 186, October 25, 1974

"The Effects of Stratospheric Pollution by Aircraft," prepared by the Department of Transportation Climatic Impact Assessment Program, December 1974

"The Effects of Fluorocarbons on Atmospheric Ozone," A Technical Review by A. Karim Ahmed, Natural Resources Defense Council, Inc. (Washington, D.C.), December 1974

"Biological Impacts of Increased Inten-

sities of Solar Ultraviolet Radiation" by the Environmental Studies Board, National Academy of Sciences (Washington, D.C.), 1973

"Fluorocarbons—Impact on Health and Environment," Hearings before the Subcommittee on Public Health and Environment of the Committee on Interstate and Foreign Commerce, U.S. House of Representatives, December 11 and 12, 1974

"Air Pollution: Effects on Plants" by Jean L. Marx, *Science*, Volume 187, February 28, 1975

"Air Quality and Automobile Emission Control," A Report by the Coordinating Committee on Air Quality Studies, prepared for the Committee on Public Works, U.S. Senate, Volume 2: Health Effects of Air Pollutants, September 1974

Diego Giacometti (p. 58)

Alberto Giacometti by Reinhold Hohl, Harry N. Abrams, Inc., 1970

Federal Islands (p. 68)

Island Life by Sherwin Carloquist, Natural History Press, 1965

Islands: Their Lives, Legends and Lore by Seon and Robert Manley, Chilton Book Co., 1970

Islands of America by the U.S. Department of Interior, Bureau of Outdoor Recreation, Government Printing Office, 1970

Pacific Coast Recreation Area Survey by the U.S. Department of Interior, National Park Service, 1959

Confederate Air Force (p. 76)

Flying the Old Planes by Frank Tallman, Doubleday and Co., Inc., 1973

The Military Airplane by Arch Whitehouse, Doubleday and Co., Inc., 1971

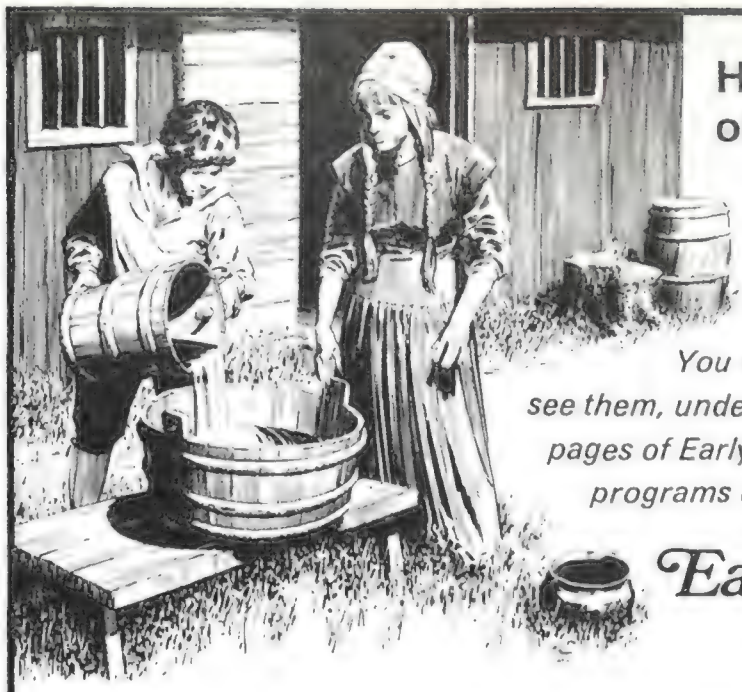
Combat Aircraft of the World from 1909 to the Present, edited and compiled by John W. R. Taylor, G.P. Putnam's Sons, 1969

Fighter: A History of Fighter Aircraft by Bryan Cooper and John Batchelor, Scribner's Sons, 1974

James Van DerZee (p. 84)

James Van DerZee, edited by Liliane De Cock and Reginald McGhee, Morgan and Morgan, Inc., 1973

The World of James Van DerZee by Reginald McGhee, Grove Press, Inc., 1969



How can the people of the 18th and 19th centuries enrich our lives today?

You will hear them, see them, understand them, through the pages of Early American Life and other programs of

The Early American Society

The Early American Society offers enriching experiences to those who wish to create a colonial-style home, or to those who wish simply to read the fascinating story of the lives of everyday Americans who lived between 1700 and 1850.

Early American Life, six times each year features articles on arts, crafts, antiques, restoration and historic travel.

Members may buy books at discounts up to 25% and participate in group travel and historical assemblies.

We'll give you projects for your workshop, recipes for the kitchen, and great ideas from young America. Annual dues: $6.00 after you have seen your first issue of *Early American Life*. Please use the coupon at right.

Membership Chairman
The Early American Society
3300 Walnut St., Boulder, CO 80302

Please enroll me as a member in the Early American Society and bill my annual dues of $6.00 after I have received my first issue of EARLY AMERICAN LIFE. I understand that if the first issue does not live up to my expectations I may cancel without further obligation.

Name _____ (please print)

Address _____

City _____

State _____ Zip _____

7108

American Indian Art

Of all the native crafts, none capture the heritage and spirit of the past like prints by leading full blooded Indian artists. NI-WO-DI-HI is proud to present a collection of signed and numbered prints by award winning artists from many tribes. Each print is limited to 1500 images, and ranges from $15 to $40. If you'd like a copy of The History of Indian Art and color reproductions of all the prints currently available call or write:

NI-WO-DI-HI Galleries
Attention J White Horse
Post Office Box 746
Austin, Texas 78767

— dealer inquiries invited —

FLEMING COLLEGE

American, two-year (A.A. degree), co-educational college based in Florence, Italy. Courses in Fine and Studio Arts, Music, Archaeology, English, Literature, History, Political Economy, Philosophy, Languages, Sciences, Theatre Arts, Film, Photography. Outstanding faculty, two-week stay in Italian homes, and research trips throughout Italy offer students an excellent liberal education with an international dimension. Interim pre-college year available. Residence on or off campus.

Contact: N.Y. Rgtr.,
326 East 69th Street,
New York, N.Y. 10021.
Tel: (212) 988-5462.

Repeating the 'sold out' cruise of past years...

VOYAGE INTO ANTIQUITY

28 Days - 34 Ports

GREECE
VOLOS
METEORA
ATHENS
MYCENAE
EPIDAURUS
MT. ATHOS
MISTRA
SPARTA
OLYMPIA
DELPHI
GREEK ISLANDS
SKIATHOS
SKYROS
CRETE
DELOS
MYKONOS
PAROS
SANTORINI
RHODES
SAMOTHRACE
HYDRA
CORFU
PATMOS
KOS
DALMATIA
KOTOR FJORD
DUBROVNIK
KORCULA
SICILY
SYRACUSE
EMPEDOCLE
AGRIGENTO
NORTH AFRICA
TUNIS
CARTHAGE
SOUSSE
MONASTIR
MALTA
VALLETTA
TURKEY
BODRUM
EPHESUS
PRIENE
PERGAMUM
TROY
ISTANBUL

Until the first Voyage Into Antiquity in 1965, it had never been possible to visit so many of the great classical sites of the ancient world or so many of the brilliant islands that dot the seas of Greece.

This superb itinerary has proven so rewarding in the past that it will be repeated in the autumn of 1975.

Aboard the internationally known MTS JASON, Guests will enjoy every amenity. Every stateroom has private facilities and is individually air-conditioned.

A comprehensive shore program is included in the cruise fare. In the company of world renowned classical scholars Guests will enjoy expert on board and on-site lectures.

Membership is limited to 195 Guests.

Reservations available from Your Travel Agent or

WORLD TRAVEL ASSOCIATES, INC.
219E Palermo, Coral Gables, Fla. 33134

WITH MAUPINTOUR, THERE'S ALWAYS MORE INCLUDED!

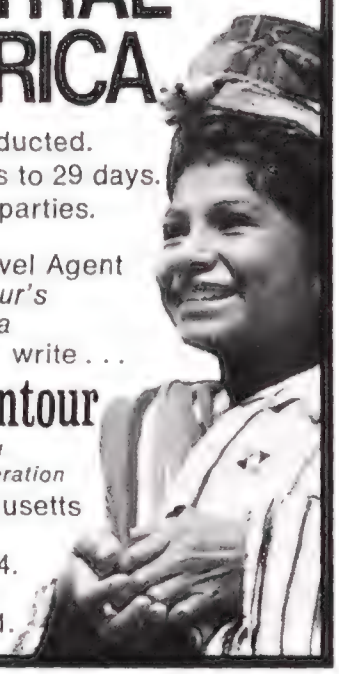
THE MAYA YUCATAN GUATEMALA

ALSO PRIVATE CAR THROUGH

MEXICO

AND UNUSUAL HOLIDAYS IN

CENTRAL AMERICA



Expertly conducted.
From 15 days to 29 days.
Limited size parties.

Ask your Travel Agent for *Maupintour's Latin America* tour book or write . . .

Maupintour

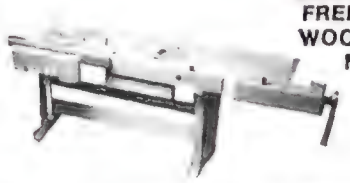
our 24th year of quality tour operation

900 Massachusetts
Lawrence
Kansas 66044.
Telephone
913/843-1211.

Woodcrafting Is Easier, Quicker with These Top Quality Benches

Whether you're a hobbyist, craftsman, cabinetmaker, or wood sculptor, experienced or beginner, The Yankee Wood Craftsman's wide selection of superb European workbenches offers you the exact features you need to do your finest work precisely, quickly. Solid kiln-dried European hardwood construction; pre-mounted specialized vises for horizontal and vertical hold; some models feature world's finest Sheffield steel vises, up to 5 drawers, ability to work on 3 or even 4 sides of bench. Large tool tray.

SEND TODAY FOR FREE CATALOG/ WOODCRAFTING MANUAL

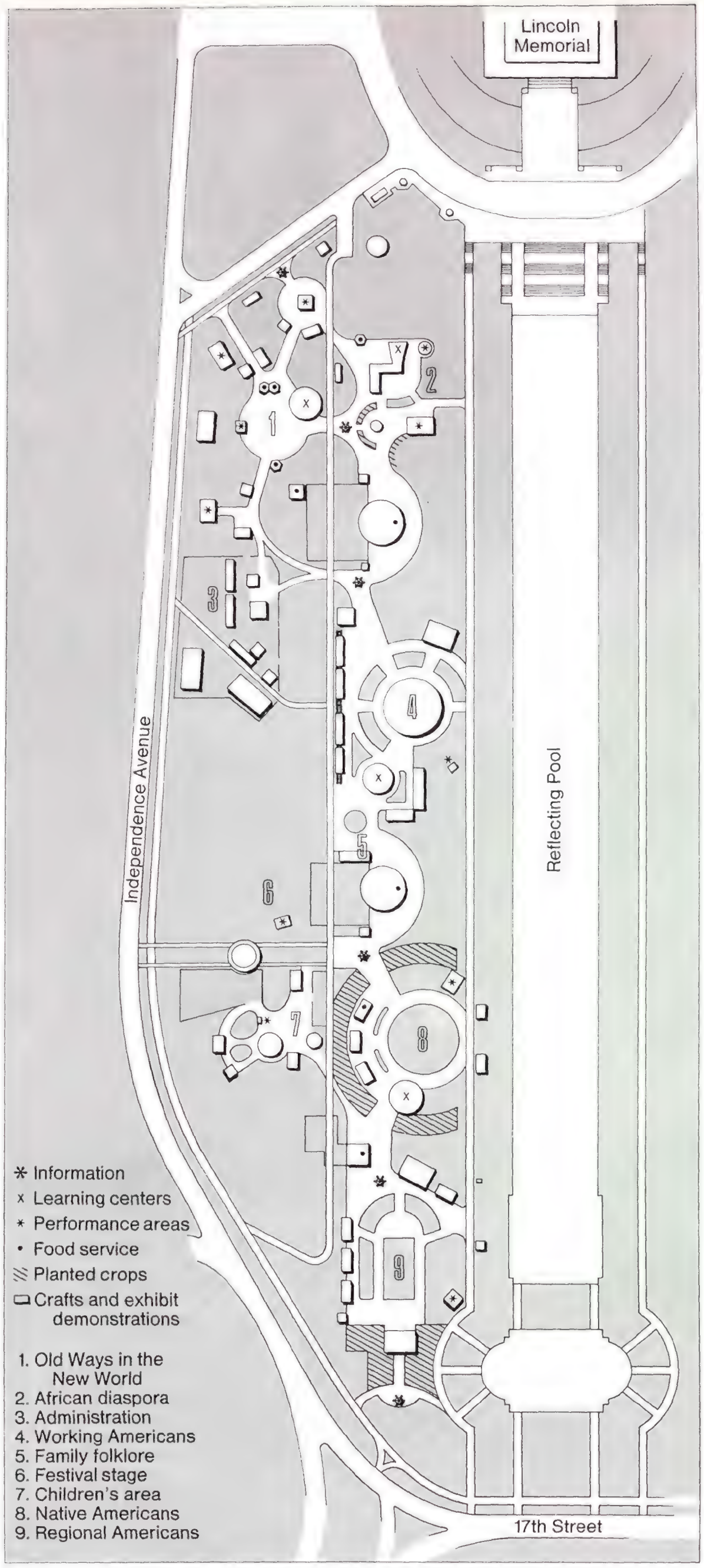


Largest choice in U.S. of amateur and professional models, 5′ to 7½′. One even folds to store—perfect for apartments. Also world's finest line of hand-forged European carving tools, clamps, and steel and exceptional wooden body planes available nowhere else in the U.S. Exciting, unique gifts for anyone who enjoys working with wood.

Garrett Wade Company, Inc.
Dept. O, 302 Fifth Avenue, New York 10001

I want the Yankee Wood Craftsman catalog/woodcrafting manual. 2

Name _____
Address _____
City _____ **St.** _____ **Zip** _____



Smithsonian highlights

Festival of American Folklife (map, left) The ninth annual Festival of American Folklife (see p. 6, May SMITHSONIAN) is being held June 25-29 and July 2-6 from 11 A.M. to 5 P.M., with evening concerts from 6 to 8 P.M. Some of the Festival highlights in the major areas include:

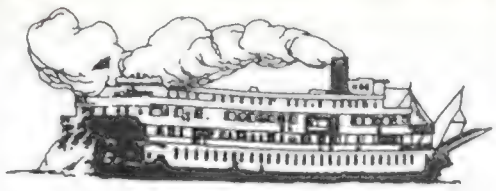
- Native Americans—Iroquois dance contest, June 27, 12:30 P.M.; championship lacrosse, July 6, 2:30 P.M.
- Regional Americans — Northern Plains States square dancing and tractor-pulling contests, June 25-29; California tuna boats in the Reflecting Pool, Chinese shadow plays, and Mexican-American mural painters, July 2-6.
- Old Ways in the New World—Panamanian carnival, June 28-29; Sicilian-American marionette plays, July 2-6; Japanese-American festival, July 5.
- African Diaspora—worship services 11 A.M. and evening gospel concerts, June 29-July 6; daily cooking and musical instrument-making demonstrations; goat and lamb roasts, June 28 and July 5.
- Working Americans—truck rodeos, June 28-29; seafarers' barges in West Potomac Park; railroad lore on Mall train cars; fiddlers' contest, July 5, 2 P.M.
- Children's area—continuous storytelling and games.
- For a complete listing of all activities, consult the Festival Program Book available at all information kiosks.

Summer Museum Hours
The Arts and Industries, Air and Space, History and Technology and Natural History Buildings are open daily from 10 A.M. to 9 P.M., the National Zoo from 9 A.M. to 6 P.M. Other buildings close at 5:30 P.M.

COLLECTORS ITEM
BICENTENNIAL TOTE BAG
Natural canvas—size 14" x 14" x 4"
HAND SCREENED
in blue $10. ppd.
in red and blue $15. ppd.
order from
PAINT PRINTS 438 West 37th St.
Dept. S-6, New York, N.Y. 10018

POSTERS OF THE PAST
1,000 fascinating posters and handbills of 18th and 19th centuries. Reproduced from originals, tracing America's social and political history. Unusual, decorative, informative. Most under $1. Send 25¢ for complete catalog.
BUCK HILL ASSOCIATES
Dept. SM Garnet Lake Rd., Johnsburg, N.Y. 12843

FIRST TIME AVAILABLE
NATURALLY RAISED, REAL MILK FED **VEAL**
Delicious and tender, raised at their mothers' side the old-fashioned way, using no artificial milk replacers, no pesticides, antibiotics or growth stimulants of any kind. Our veal is raised to the same high organic standards as our baby beef.
For Details Write:
TEEL MOUNTAIN FARM
BOX 12 STANARDSVILLE
VIRGINIA 22973



Fantastic Voyage.

That's one way to describe a cruise on the Delta Queen—the steam-powered "time machine" that follows the ghostly wake of the early river packets back into history.

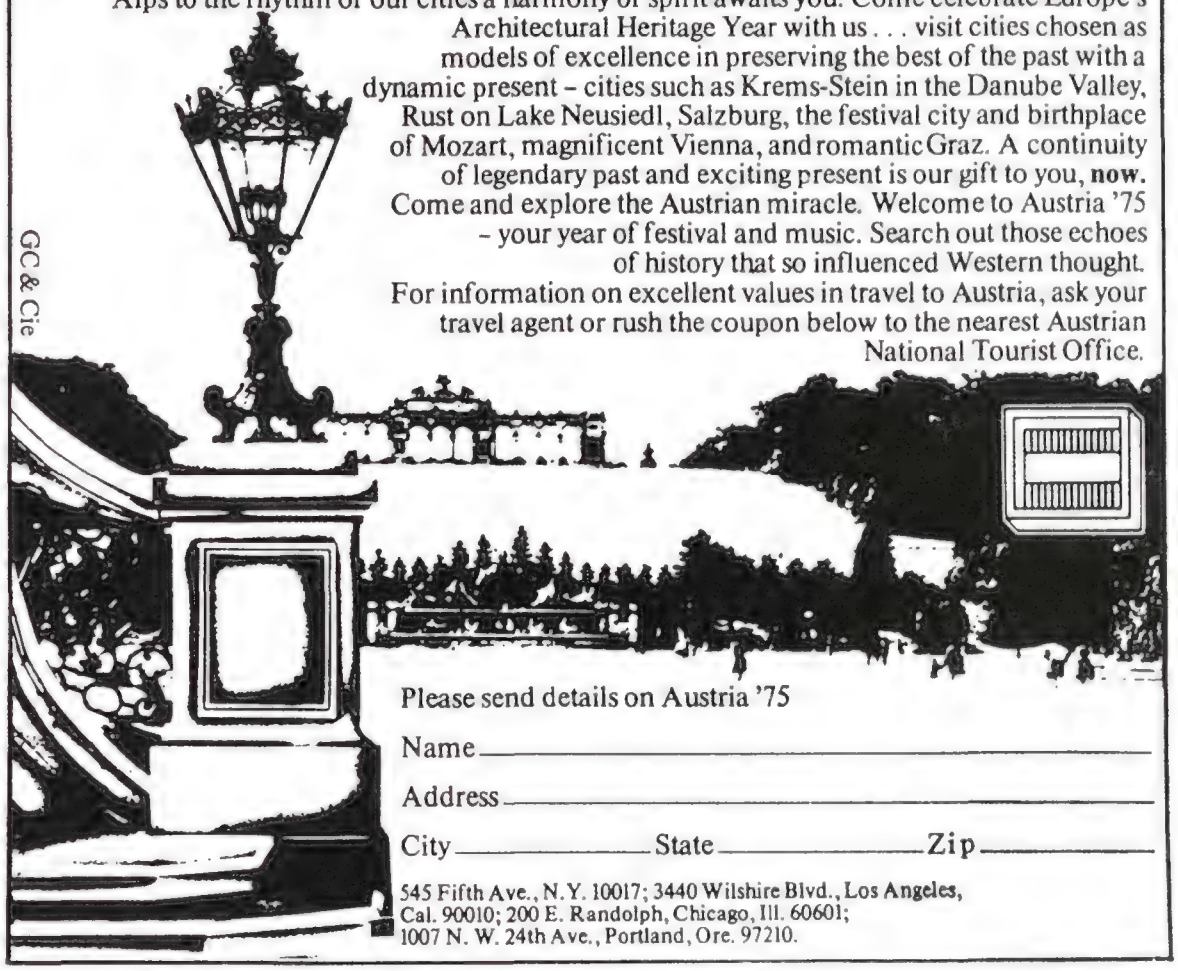
On the Delta Queen you'll return to an older America that once thrived on the riverboat trade. And you'll enjoy riverboat life that is much the same as it was then. Endless changes of scenery, traditional "steamboat" entertainments and succulent old South cookery will make your trip a memorable experience.

Choose from cruises originating in New Orleans, St. Louis, Cincinnati, Pittsburgh, and St. Paul. For a brochure and cruise schedule see your travel agent or write the Delta Queen, Dept. SM06, 322 E. Fourth Street, Cincinnati, Ohio 45202.

DELTA QUEEN
VOYAGES to AMERICA

austria75

The gifts of nature, the works of man fuse into a unity of beauty in our land. From the silent Alps to the rhythm of our cities a harmony of spirit awaits you. Come celebrate Europe's Architectural Heritage Year with us . . . visit cities chosen as models of excellence in preserving the best of the past with a dynamic present – cities such as Krems-Stein in the Danube Valley, Rust on Lake Neusiedl, Salzburg, the festival city and birthplace of Mozart, magnificent Vienna, and romantic Graz. A continuity of legendary past and exciting present is our gift to you, **now.** Come and explore the Austrian miracle. Welcome to Austria '75 – your year of festival and music. Search out those echoes of history that so influenced Western thought.
For information on excellent values in travel to Austria, ask your travel agent or rush the coupon below to the nearest Austrian National Tourist Office.



Please send details on Austria '75
Name _____
Address _____
City _____ State _____ Zip _____

545 Fifth Ave., N.Y. 10017; 3440 Wilshire Blvd., Los Angeles, Cal. 90010; 200 E. Randolph, Chicago, Ill. 60601; 1007 N. W. 24th Ave., Portland, Ore. 97210.

Nikon wants you to see better

Nikon prism binoculars start with world-famous Nikon optics, made from Nikon optical glass. Lenses and prisms for right and left barrels are precisely matched and collimated, and the optical parallelism of both barrels is verified.

That's why with Nikon binoculars you enjoy brilliant, sharp, full-field viewing without strain or fatigue, even for long stretches. Now, find out how little more it costs to see better, longer. At Nikon camera dealers and selected optical departments. Write for literature Folio 18, Nikon Inc., Garden City, N.Y. 11530. Subsidiary/Ehrenreich Photo-Optical Industries, Inc.

(In Canada: Anglophoto Ltd., P.Q.)

Nikon Binoculars

TRAVEL THE WORLD OF LINDBLAD

You can't visit Tibet or China, but now

BHUTAN

a remarkably preserved civilization

There is in the foothills of the Himalayas a small kingdom called Bhutan. Today, it is almost the only place left where the remarkable Tibetan culture still thrives in its native habitat. This tiny kingdom has opened its doors to those few who in the past have found this marvellous world beyond reach. Here is a country filled with treasures and relics dating way back in history. Here is a country filled with verdant valleys and sun-drenched streams below the snowy peaks of the Himalayas. Here is a kingdom endowed with beautiful, friendly people whose customs have been untouched by western man. Only a small number of tourists may be accommodated this year and we suggest you reserve your space at once. Write Lindblad Travel or see your travel agent.

LINDBLAD TRAVEL, INC.

Dept. SBH675
133 East 55th Street, New York, N.Y 10022
(212) 751-2300

Museum of History and Technology

The opening exhibit in the newly constructed Hall of Political History is "We The People," a history of American government in three parts: "Of The People" asks who we are and have been in census, symbol and association with the rest of the world; "By The People" demonstrates how we campaign, vote and influence our government; "For The People" portrays the ways our system of government responds to the objectives established in the Constitution. The exhibition is a contemporary restatement of the Smithsonian's political history collection. Included in the exhibit are cartoons, audiovisual campaign materials, state gifts, the cabin of President Kennedy's campaign plane "Caroline," and George Wallace's bullet-proof lectern. Historic documents, banners of petition, and materials from suffrage movements are also part of "We The People." Four cases of symbols with which the American people have chosen to represent themselves, such as the flag, eagle and Miss Liberty, line the entrance corridor of the exhibition—opens June 4.

National Collection of Fine Arts

"Academy: The Academic Tradition in American Art" is a major exhibition commemorating the 150th anniversary of the National Academy of Design. The 124 artists, represented by 180 works, were all born before 1900 and were members of the National Academy. The show is divided into an introductory section, featuring drawings of casts and nudes, and three chronological groupings featuring paintings and sculpture. Artists represented in the exhibit include Samuel F.B. Morse, Thomas Cole, Worthington Whittredge, Thomas Eakins, Leon Kroll, Abbott Thayer and Augustus Saint-Gaudens—opens June 6.

"Contemporary Stage Design—U.S.A." is the first comprehensive exhibition of American scene and costume design ever assembled in the United States. The show consists of 12 three-dimensional set models and approximately 100 paintings, renderings and collages encompassing work from sets on Broadway and off-Broadway; regional, experimental and university theater; opera, ballet, musicals and drama. Boris Aronson, Jo Mielziner and Howard Bay are among the designers represented—opens June 20.

Freer Gallery of Art

"Art of the Arab World" is a major exhibition of 80 objects, including ceramics, metalwork, glass, crystal and illuminated pages and paintings from Arabic manuscripts. The show surveys Arabic art from the eighth to the 16th century. A long-handled bronze incense burner adorned with five domes, a 13th-century brass basin inlaid with silver, and a large brass and silver canteen are among the most beautiful and unusual objects in the exhibition—through December.

Division of Musical Instruments

A "Contemporary Chamber Ensemble" presents music by Boulez, Colgrass and Sydeman under the direction of Arthur Weisberg—June 15, free workshop at 4 P.M., Museum of History and Technology; concert at 8 P.M., Baird Auditorium, Museum of Natural History. For information, call (202) 381-5157.

National Portrait Gallery Shuttle

An anonymous donor has purchased a red, double-decker British bus for the National Portrait Gallery which is being used as a shuttle bus between the Gallery and the Museum of History and Technology. The free daily service begins at 10 A.M. at the Portrait Gallery, 9th and F Streets N.W., and 10:30 A.M. at History and Technology on the Mall. The service continues every 60 minutes throughout the day.

Anacostia Neighborhood Museum

Approximately 60 works by students, non-professional and professional artists make up the new exhibition "East Bank Artists." The objects exhibited were selected from works submitted by people living east of the Anacostia River—opens June 15.

Traveling Exhibition Service

There are up to 70 Smithsonian-sponsored exhibitions on display each month throughout the United States and Canada. For a complete listing write Traveling Exhibition Service, Smithsonian Institution, Washington, D.C. 20560.

- Boston, Massachusetts—"Black Presence in the Era of the American Revolution" (City Hall, June 21-July 20).
- Concord, New Hampshire—"Contemporary Textile Art from Austria" (Craftsmen of New Hampshire, June 14-July 13).

DROLL YANKEES HUMMINGBIRD FEEDER has 3 feeding stations, a three year guarantee, and is simple, strong & easy to clean. $8.25 postpaid. Write for free catalog of our bird feeders & bird song phonorecords.

DROLL YANKEES® INC., Box 98-S
Foster, Rhode Island 02825
Telephone orders: 401/647-2727

Build an OMEGADOME™ . . . primarily of wood. Available as do-it-yourself plans, strut kits, bolt-together panels. For complete data and scale model send $3.00 (refunded on purchase) to:

AMERICAN GEODESIC, INC.
Box 164s, Hampden Highlands, Maine 04445
Note: Patent Applied For

Smithsonian Binders

Magazines slip into case to become valuable reference volumes. Dark blue with gold lettering. One file holds 12 issues.

The Highsmith Co., Inc.
Box 25s
Fort Atkinson, Wis. 53538
One Smithsonian File $2.50
3 for $5.95. All postpaid

philia fashions ltd.

Leisure is the word!
Imported Greek caftan in scaled-down but generous A-line. Hand-loomed lightweight cotton improves in softness each time it's washed. Never needs ironing.

Creamy white with navy, burgundy or black crinklestripes. Order by dress size. S(6-8) M(8-10) L(12-14) XL((14-18) ***$28*** *ppd. No COD's. Immediate air del. Return promptly if dissatisfied. Brochure available.*

PHILIA, 349 E. 61 ST., N.Y. 10021

COLOR SLIDES FROM THE SMITHSONIAN

From the National Museum of History and Technology, five sets of beautiful 35mm color slides present highlights from the Smithsonian's collection of American History. Only $1.50 per set.

- SET 1 George Washington's Uniform—Star Spangled Banner—George Washington's Tent—Lewis and Clark Compass—Gondola Philadelphia.
- SET 2 East Room, First Ladies' Gowns Exhibit—Thomas Jefferson Desk—Benjamin Franklin Printing Press—White House Resolute Desk—White House China.
- SET 3 19th Century Headsville Post Office—Dolls' House—$20 Double Eagle Gold Piece—1890 American Drug Store—Joseph Henry's Magnet.
- SET 4 The National Museum of History and Technology—1913 Model-T Ford—Six-Horse Conestoga Wagon—1851 Pioneer Locomotive—Pacific-Type Steam Locomotive.
- SET 5 Edison Phonograph—Samuel F. B. Morse's First Telegraph Transmitter and Receiver—Alexander Graham Bell's Centennial Telephone—Eli Whitney's Cotton Gin Patent Model—Elias Howe's Sewing Machine Patent Model.

Please send __ each of set(s) number ____ of 35mm color slides from the National Museum of History and Technology @ $1.50 per set. Total enclosed $_____.

NAME

ADDRESS

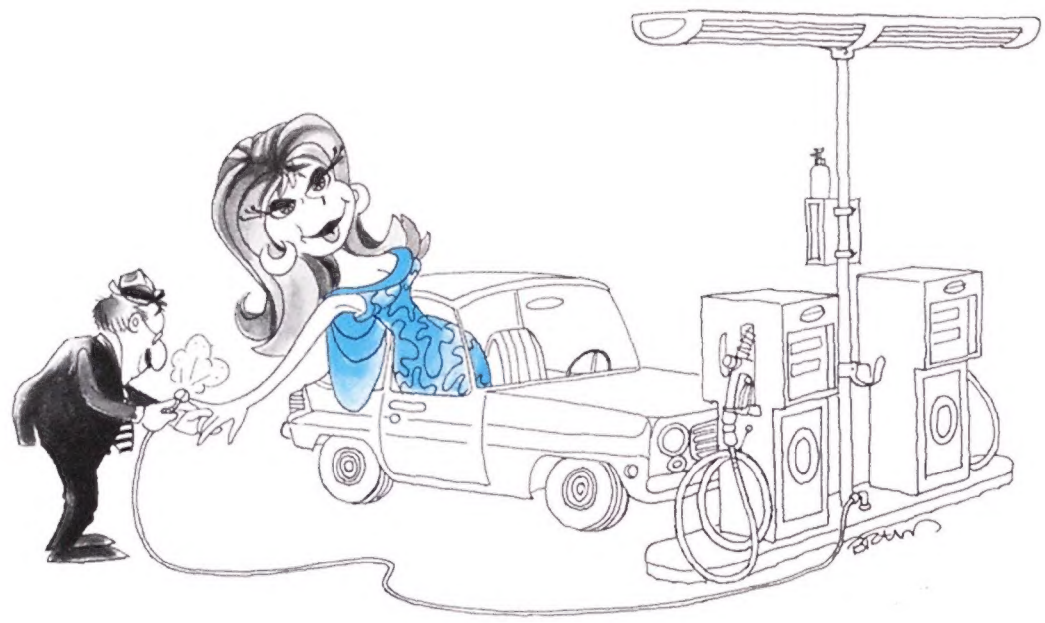
CITY STATE ZIP

MHT75—6

MAIL ORDERS TO: Photographic Services, Smithsonian Institution, Washington, D.C. 20560

By Patrick Ryan

Inflation may sometimes be what's needed



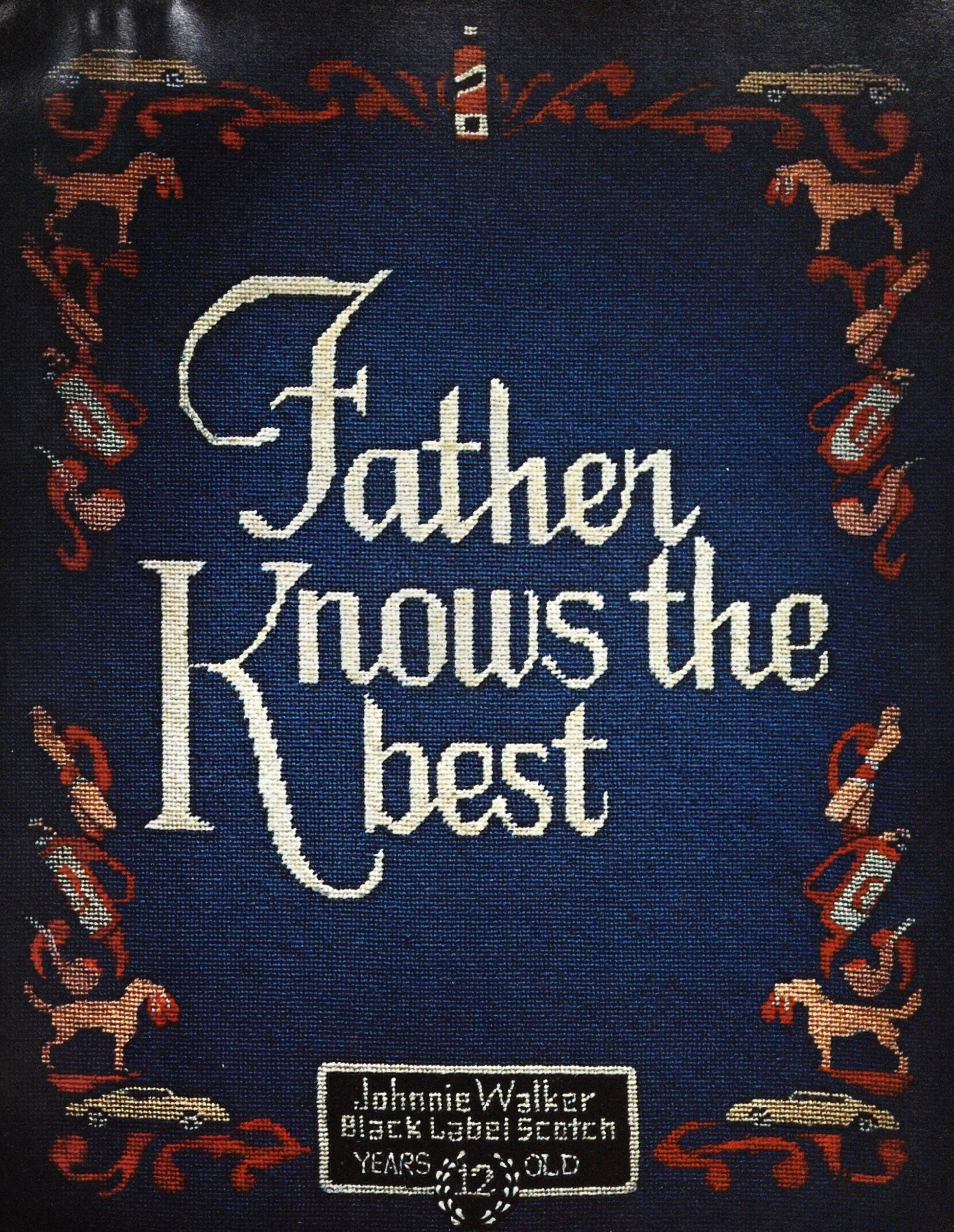
Troubles are rife in these inflationary days, but standing out, somehow, is the bizarre tribulation that lately befell the St. John Ambulance Brigade in Nairobi and led its spokesman to appeal to "a thief to return a life-size human model used for teaching artificial respiration. It was stolen, with a suitcase, from a member of the brigade at a Nairobi bus stop." Though never one for casting first stones at a member of an admirable first-aid organization, I have further aggravated my insomnia by trying to figure out what diversion the model's guardian was engaged in at the bus stop which caused him to suffer so peculiar a larcenous deprivation. And also puzzling as to what worthwhile profit the thief was hoping to make.

Perhaps there is in Kenya an illicit organization devoted to providing artificial respiration courses for criminals engaged in underwater smuggling. Or a market in Nairobi for those "silent partners" which, a while back, were being marketed by that famous gadget emporium, Hammacher Schlemmer of New York. It took the shape of a well-dressed man wearing a bowler hat, and was made of inflatable plastic in full natural colors. After you'd bought him deflated and blown him up to life-size, the advertising copy proclaimed, "He sits beside you, so that you are not alone in your car, or leave him sitting there and he keeps intruders away." This pneumatic man was designed primarily as a security device. But the creators of such facsimiles of humans might gainfully consider whether they should extend their talents. The world may be waiting, not only for the sunrise, but also for all manner of pleasantly pumped-up personnel.

Inwardly great, but outwardly inept, gentlemen lovers anxious to establish their neighborhood reputation as lady-killers would willingly pay folding money to display beside them in their automobiles inflatable effigies of Raquel Welch or Ann-Margret, crowned with coiffures expressly groomed for streaming back in the wind. Married ladies neglected by their husbands might well invest some of their housekeeping money to rouse a little marital jealousy by riding about their hometowns accompanied in the passenger seat by a man-size replica of Paul Newman or Steve McQueen —with fireman's helmet, two dollars extra. Overtired businessmen condemned inescapably to the rat race would line up to buy blow-up facsimiles of themselves which they could leave crouching over their lighted desks deep into the night, so that passing executive vice presidents might mark them "A" for application, although in actuality they were attending to personal duty in the nearest bar.

On the domestic front, teenyboppers who now disfigure their bedroom walls with vast posters of hirsute pop stars could easily be conned into spending their great sums of pocket money on three-dimensional pump-ups of Donny Osmond. Husbands normally unable to get a marital word in edgewise would pay well for air-filled incarnations of the incessant spouse which, when distended, would sit silent and attentive while the master of the house told her a thing or two.

In other realms, court chamberlains charged with bolstering the egos of dictators could purchase by the thousand artificial lengths of cheering populace, conveniently connected for compressed-air elevation in ranks of ten, and with tape recorders in their stomachs eternally emitting "rhubarb-rhubarb" in tones of international enthusiasm. And emissaries from the Chinese government should certainly snap up a gross or so of inflatable effigies of Chairman Mao, both for provincial display on distant balconies and for floating in grand flotilla down the Yangtze River in annual, multiple commemoration of his symbolic swim.



JOHNNIE WALKER® BLACK LABEL 12 YEAR OLD BLENDED SCOTCH WHISKY, 86.8 PROOF. BOTTLED IN SCOTLAND. IMPORTED BY SOMERSET IMPORTERS, LTD., N.Y., N.Y.

"I would like to create a cologne that will last as long as there are men and women."

PIERRE FRANÇOIS PASCAL GUERLAIN-1860